DPS Telecom

"Your Partners in Network Alarm Monitoring"

T/Mon LNX

QUICK START

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May 31, 2013

D-QS-TMLNX-12001

Revision History

July 27, 2012	Updated Web Interface section to reflect the new Web 3.0
August 12, 2011	Updated SQL Agent section
February 11, 2011	Added section for Optional Module: SQL Agent
November 30, 2010	Corrected specifications for CD/DVD burner
Oct. 1, 2010	Updated instructions: "Updating T/Mon software"
June 10, 2010	Added section on uploading existing T/Mon database.
June 3, 2010	Updated instructions for adding network interfaces.
June 1, 2010	Added instructions for setting up voice module / Site Dialer.
May 24, 2010	Added NTP setup.
May 10, 2010	Minor additions and image updates.

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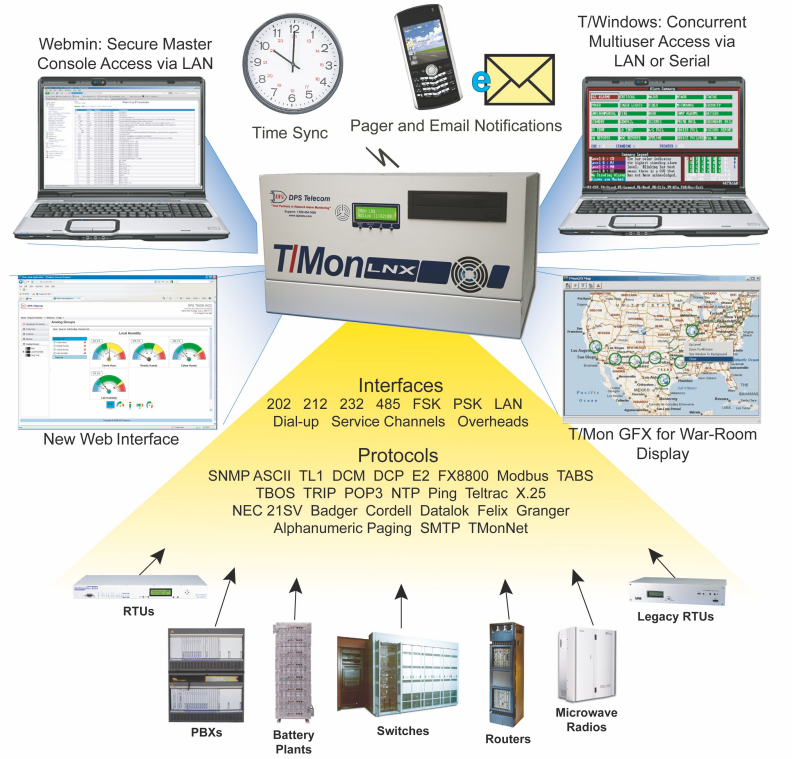
1 T/Mon LNX Overview



DPS is proud to announce the latest in alarm management technology - the T/Mon LNX. It combines T/Mon NOC and EXP technology into one, blazing fast device. The T/Mon LNX yields a cleaner configuration, especially for redundant systems. T/Mon LNX features all the flexibility you expect from T/Mon, with a much faster processor and more RAM - just to name a few enhancements - as it lays the foundation for the future of T/Mon.

The T/Mon LNX Remote Alarm Monitoring System is a multiprotocol, multifunction network alarm manager designed as a single-platform solution for all alarm monitoring applications. T/Mon collects alarm data from a wide variety of equipment, regardless of manufacturer or protocol, and displays the state of your entire network in one interface, eliminating the need for specialized terminals. T/Access is a thing of the past for the LNX, as it supports a fresh, new web interface offering more flexibility and visibility than ever.

Immediate benefits of upgrading to the T/Mon LNX platform:

- **6 10/100/1000 NICs** versus a single 10/100 in the NOC. With multiple LAN configurations becoming increasingly popular for security reasons, your T/Mon LNX can communicate on 6 networks while maintaining IP segregation.
- **Processes more** ASCII jobs, virtual polling loops, and more GFX connections - faster
- **Completely compatible** with existing T/Mon EXP applications, such as the SQL History Agent and Voice Dialer
- On-board RAID 1 for **true hard drive redundancy**
- **Better multi-tasking** environment to allow more, faster

2 Shipping List

While unpacking the T/Mon LNX, please make sure that all of the following items are included. If some parts are missing, or if you ever need to order new parts, please refer to the part numbers listed and call DPS Telecom at **(800) 622-3314**.

T/Mon LNX
D-PK-TMLNX

T/Mon LNX Quick Start
D-QS-TMLNX-12001

Ethernet Cable - 14 ft.
D-PR-923-10A-14

T/Access Cable (DB9 to DB9)
D-PR-1053-10A-10

X2

19" Rack Ears

X2

23" Rack Ears

4-Pin Barrier
(Shipped with DC powered units only)
1-820-00814-02

X2

2-Pin Barrier
(Shipped with DC powered units only)
1-820-00862-02

X6

Standard Rack Screws
1-000-12500-06

X6

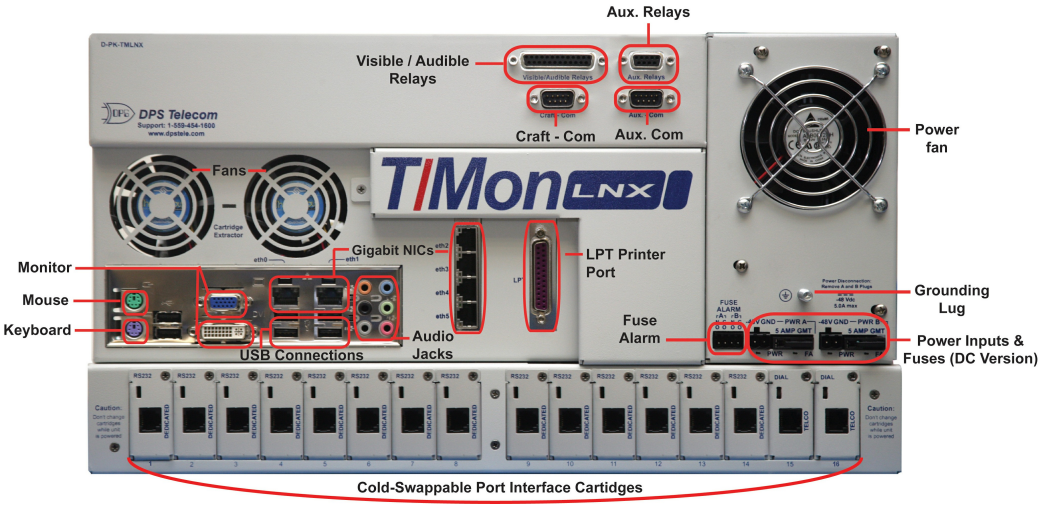
Metric Rack Screws
1-000-80750-03

X4

5 Amp Fuse

AC Power Cord
(Shipped with AC powered units only)

3 Specifications



Dimensions:	11.25" (7 RU) H x 17" W x 14" D (with slide rack)
Processor	2.66 GHz Quad-Core Pentium 4
RAM	4 GB
LAN Interfaces	Six 10/100/1000 BaseT ports (Gigabit)
Serial Ports	Support for 16 docking modules
Monitoring Capacity	1,000,000 alarm points
Hard Drive	Dual 250GB SATA drives in RAID 1 Configuration
Standard Input Protocols	DCP, DCPf, DCPx, Ping
Standard Output Protocols	DCP, DCPf, DCPx
Optional Input Protocols	SNMP, ASCII, Badger, Cordell, DCM, E2A, Granger, Larse, Modbus, NEC, NTP, Pulsecom, TABS, TBOS, Teltrac, TL1
Optional Output Protocols	ASCII, SNMP, TABS, TL1
Power Input	Dual -48VDC power feeds or 110 VAC (depending on ordering option)
Current Draw:	3.5 Amps peak at -48VDC, 2.0 Amps peak at 110VAC
Fuse	Two 5-Amp GMT fuses (DC version only)
Weight	28 lbs (30 lbs with slide rack)
Visual Display	Front panel LCD
Removable Storage	CD/DVD burner drive (supports CD-R, CD-RW, DVD, and DVD+/-R)
Printer Support	Via LPT printer port
Unit Controls	4 LCD menu control buttons
Mounting	19" or 23" rack
Fans	3 internal (4 in the AC version), 1 CPU
Operating Temperature	41° to 95° F (5° to 35° C)
Operating Humidity	0% to 90% (non-condensing)

Windows Compatibility	XP, Vista, 7 32/64 bit
MTBF	60 years
CE	EMC: Tested to EN55022/55024 Safety: Tested to EN60950-1 Both AC and DC variants have been certified for CE

4 Hardware Installation

4.1 Mounting

Slide Rack Mounting - Optional Accessory

Slide Rack Mounting

The Slide Rack enables the T/Mon LNX to easily slide out of its rack position for installation and service access. Your T/Mon LNX shipped with the Slide Rack already mounted to the unit and with the specified rack ears in the correct position for installation. Installing the T/Mon LNX with Slide Rack takes three steps:

1. Removing the Slide Rack from the T/Mon LNX
2. Mounting the Slide Rack on the equipment rack
3. Mounting the T/Mon LNX on the Slide Rack.

Note: The T/Mon LNX with Slide Rack occupies 4 rack units of space. At least 1 rack unit (1 3/4") should be allowed above the T/Mon LNX for ventilation. The Slide Rack extends nearly 13" - be sure to provide adequate service loop in the connecting cables to allow the T/Mon LNX to extend to this distance. After installation and testing of the T/Mon LNX is completed, the slide lock screws should be installed in the Slide Rack to prevent accidental migration of the unit into the aisle space. The slide lock screws go into the equipment rack when flush mounted.

Removing the Slide Rack From T/Mon LNX

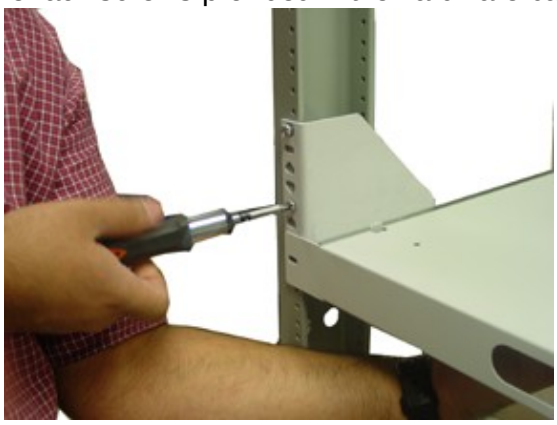
Removing the Slide Rack makes mounting the T/Mon LNX an easy, one person, job. To remove the Slide Rack, follow these steps:

1. Make sure the T/Mon LNX is off and disconnected from all network interfaces and power supplies.
2. Carefully place the T/Mon LNX upside down on a clean, even surface. (This will not damage the unit.)
3. The T/Mon LNX is secured to the Slide Rack by two screws - see Figure 4a. Remove these screws and save them for reattaching the unit.
4. Gently lift the Slide Rack to remove it from the T/Mon LNX.

Mounting the Slide Rack - Optional

The Slide Rack is light and can easily be mounted to the equipment rack by one person. The rack ears specified with your order (either 19" or 23") are already attached to the Slide Rack. (If the incorrect ears have been attached to the Slide Rack, look for the extra ears included with your shipment.) To mount the Slide Rack to the equipment rack, follow these steps:

1. Supporting the Slide Rack with one hand, align the mounting holes in the rack ears with the rack rails.
2. Secure both brackets with the rack screws provided in the hardware bag.



Slide Rack Mounting

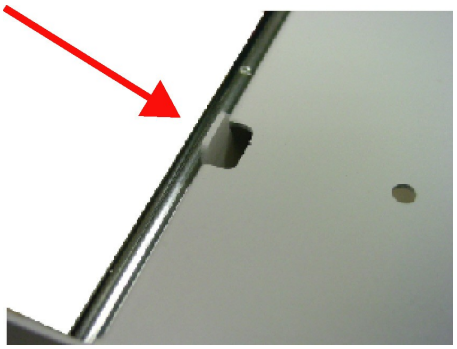
Mounting the T/Mon LNX on the Slide Rack

To mount the T/Mon LNX on the Slide Rack, follow these steps:

1. Extend the Slide Rack.
2. Lift the T/Mon LNX and place it on the Slide Rack.

Place the T/Mon LNX on the extended Slide Rack

3. Align the notches on the bottom of the T/Mon LNX with the mounting tabs on the Slide Rack - see Figure 4a. There is a tab on either side of the Slide Rack, approximately 2" from the front of the Rack. Gently place the T/Mon LNX onto the mounting tabs.



There is a mounting tab on either side of the Slide Rack approximately 2" from the front of the Slide Rack

4. From below the T/Mon LNX, insert the two screws that secure the T/Mon LNX to the Slide Rack.
5. Slide the Slide Rack back into place.

Secure T/Mon LNX to Slide Rack

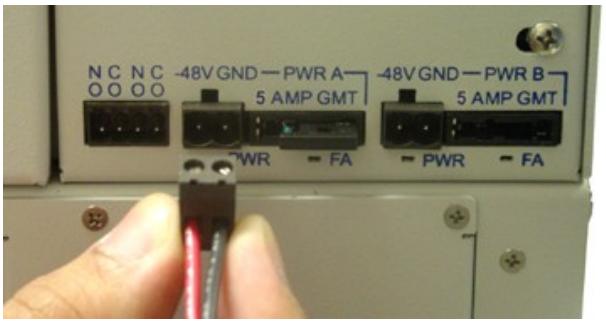
Rack Mounting

If you did not order the Slide Rack, your T/Mon LNX is equipped with rack ears that can be positioned for either 5" projection or flush mounting in either 23" or 19" racks. To mount the T/Mon LNX directly to the equipment rack, follow these steps:

1. Determine which mounting configuration is required. The T/Mon LNX is supplied with the brackets in the 19"/5" projections position.
2. If a different configuration is required, remove the 8-32 screws, re-orient the brackets and re-install the screws.
3. Place the T/Mon LNX in the rack and align the mounting holes in the brackets with the holes in the rack rails. Secure each bracket with two 12-24 screws (provided in hardware bag).

4.2 Power Connection: -48VDC

The T/Mon LNX is powered by two screw terminal barrier plug power connectors.



Screw terminal barrier plugs

To connect the T/Mon to a power supply, follow these steps:

1. Always use safe power practices when making power connections. Be sure to remove fuses from the fuse distribution panel, as well as the back of the T/Mon, before making your power connections.
2. Use the grounding lug to connect the unit to earth ground. The grounding lug is next to the symbol ⏚. Insert the eyelet of the earth ground cable between the two bolts on the grounding lug (Ground cable not included).
3. Insert a battery ground into the power connector plug's right terminal and tighten the screw; then insert a battery line to the plug's left terminal and tighten its screw.
4. Insert a fuse into the fuse distribution panel and measure voltage. The voltmeter should read between –40 and –70VDC.
5. The power plug can be inserted into the power connector only one way to ensure the correct polarity. Note that the negative voltage terminal is on the left and the GND terminal is on the right.
6. Insert fuse into the Power A fuse slot. The power LED should be lit green. If the LED is red, the power connection is reversed. To confirm that power is correctly connected, the front panel LEDs will flash RED and GREEN, indicating that the firmware is booting up.
7. Repeat steps 1 -6 for Power B connector.

4.3 Power Connection: 110VAC

These instructions apply only to T/Mon LNX models with 110VAC power connection.

110VAC version of the T/Mon LNX

1. Insert the power cord into the power inlet on the back of the T/Mon LNX.
2. Connect the plug end to a 110VAC outlet.
3. Turn on the power switch on the back of the T/Mon to start the system.

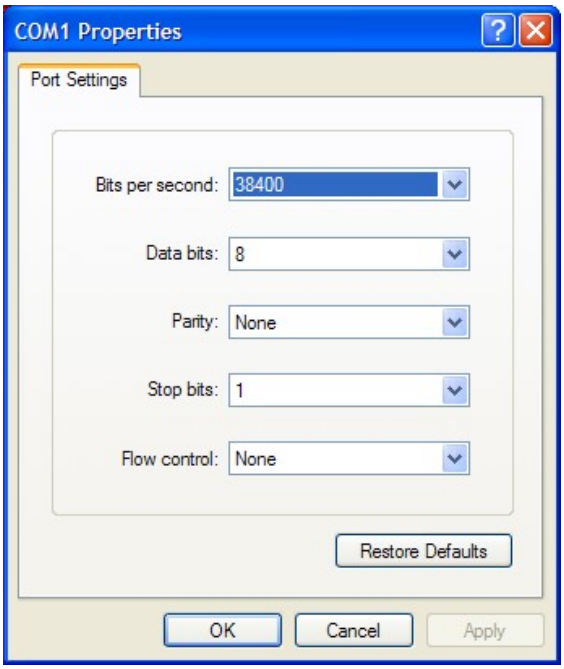
5 Initial Setup

5.1 Changing T/Mon's IP Address via Serial Connection

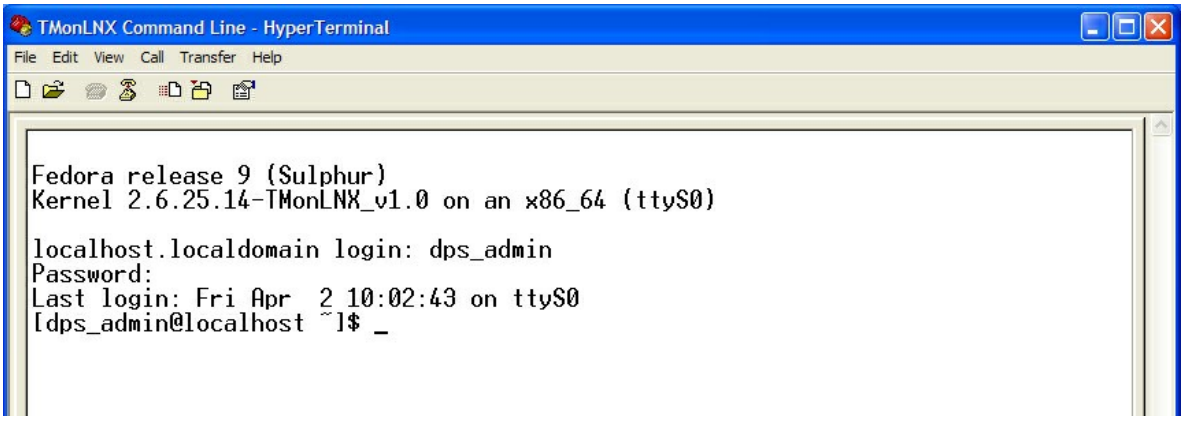
The following script is used to configure **Eth0** (main network interface). Refer to the next section to to create and define additional interfaces.

1. Connect a null terminated serial cable (T/Access cable included with the unit) from a PC's COM port to the T/Mon LNX craft port.
2. Start HyperTerminal on your PC, located in the Start Menu > Programs > Accessories > Communications. Configure a serial port with the following information:

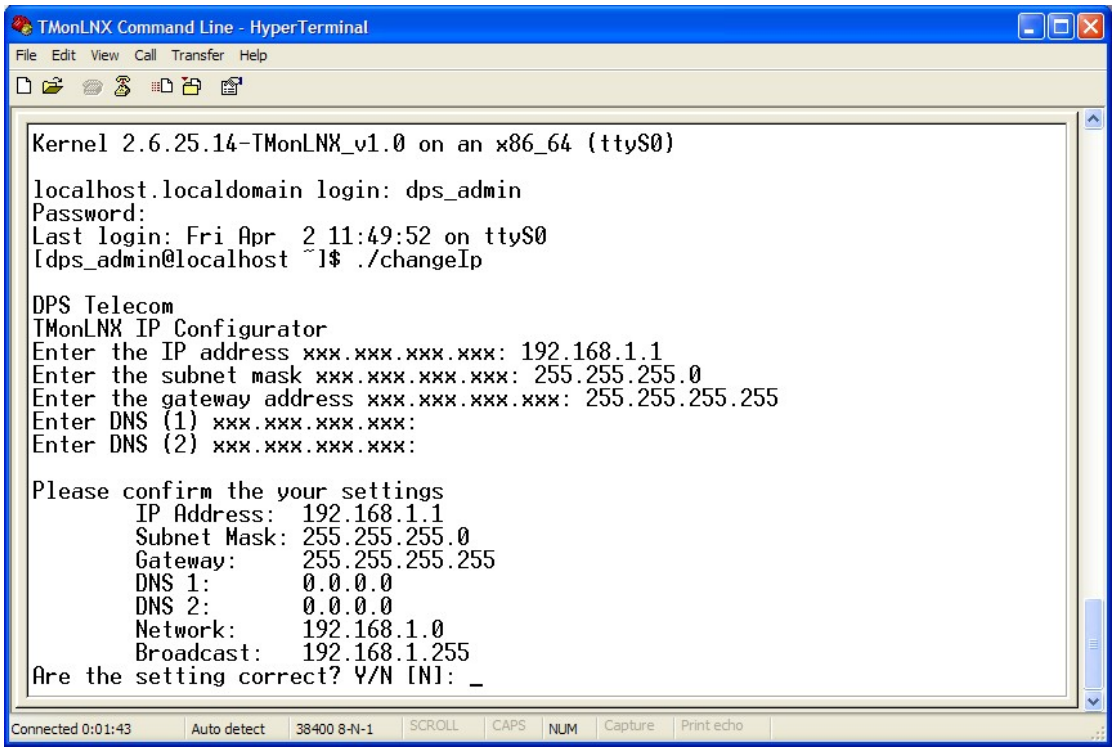
- 38400 bps
- 8 data bits
- No parity
- 1 stop bit
- No flow control



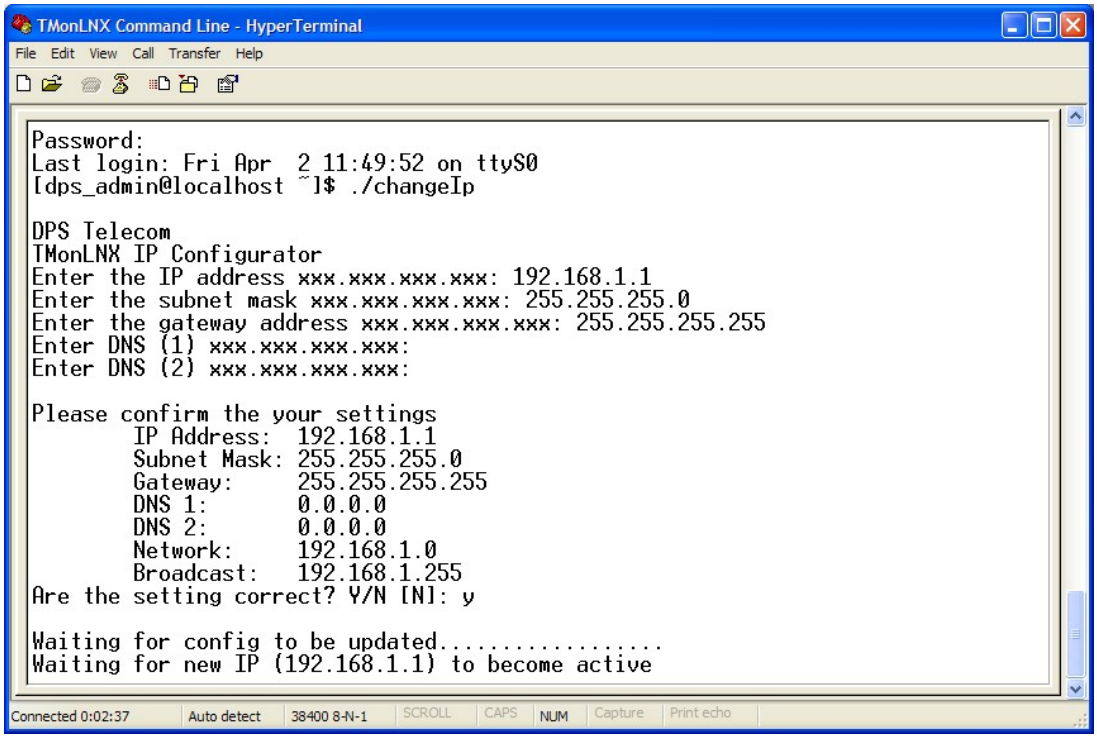
3. Connect HyperTerminal and Press Enter. A login prompt should appear.


TMonLNX Command Line - HyperTerminal
File Edit View Call Transfer Help
Fedora release 9 (Sulphur)
Kernel 2.6.25.14-TMonLNX_v1.0 on an x86_64 (ttyS0)
localhost.localdomain login: dps_admin
Password:
Last login: Fri Apr 2 10:02:43 on ttyS0
[dps_admin@localhost ~]$ _

4. Enter the default username "dps_admin" and default password "dpstelecom" (without quotes)
5. Enter "**./changeIp**" (case-sensitive; type without quotes, leads with a period) and press Enter. Enter in the new IP address, subnet, gateway, and DNS information.

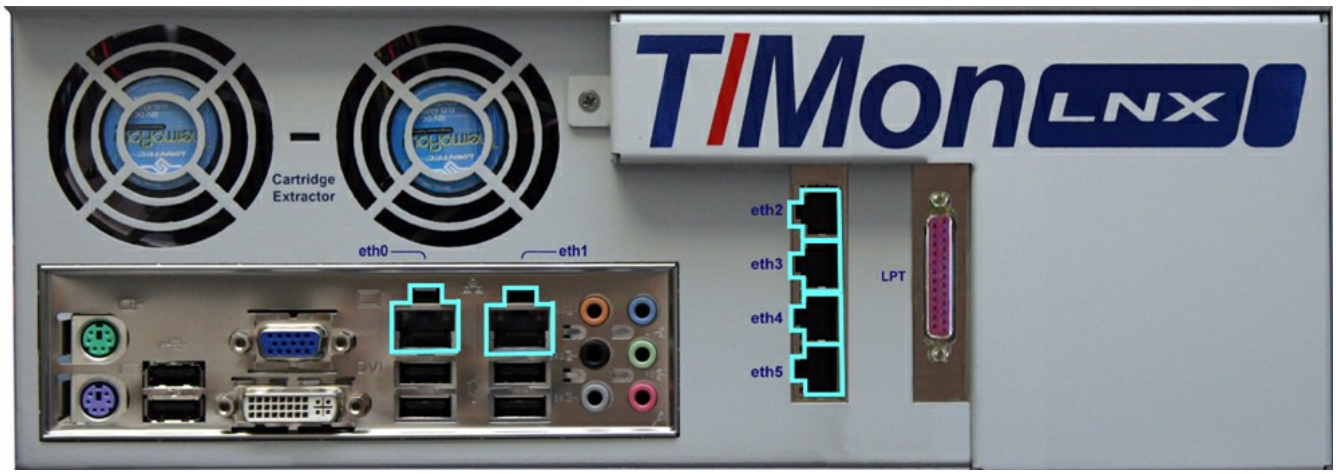


6. Press Y to confirm the new IP address. The script will apply the new IP.

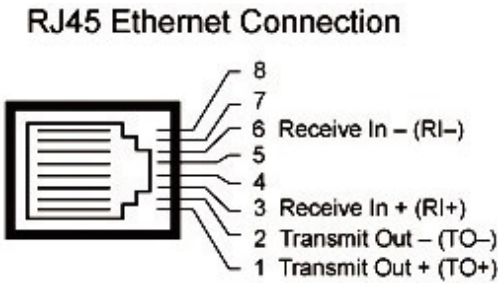


5.2 LAN Connection

Connect the T/Mon LNX to your LAN by inserting a standard Ethernet cable into the "eth0" port, located on the rear of the unit.



Connecting the T/Mon LNX to LAN

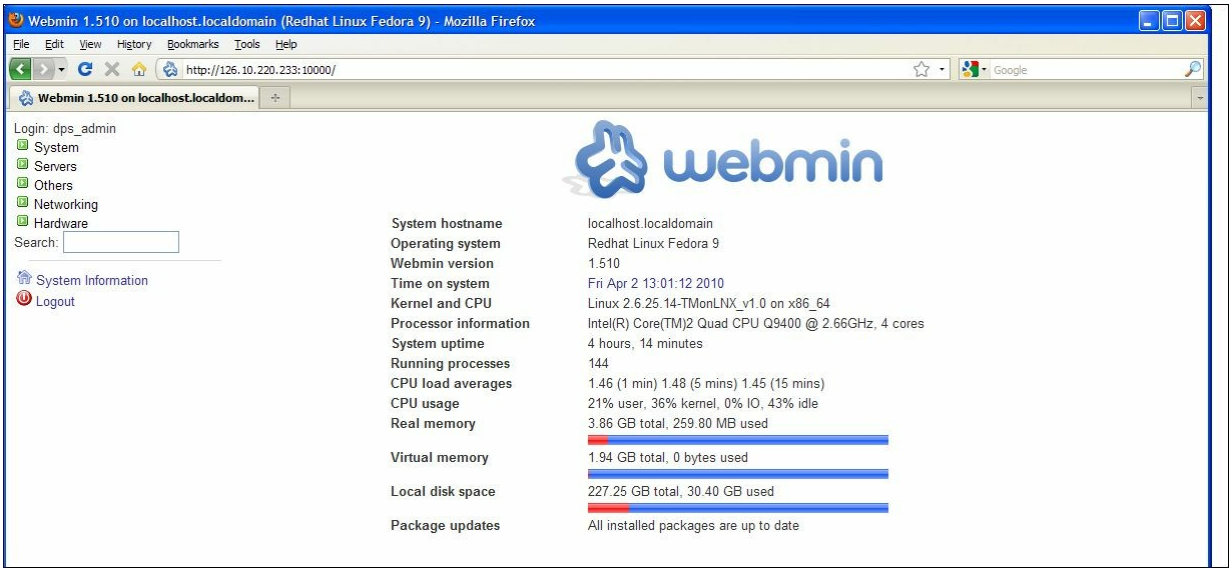


Ethernet port pinout

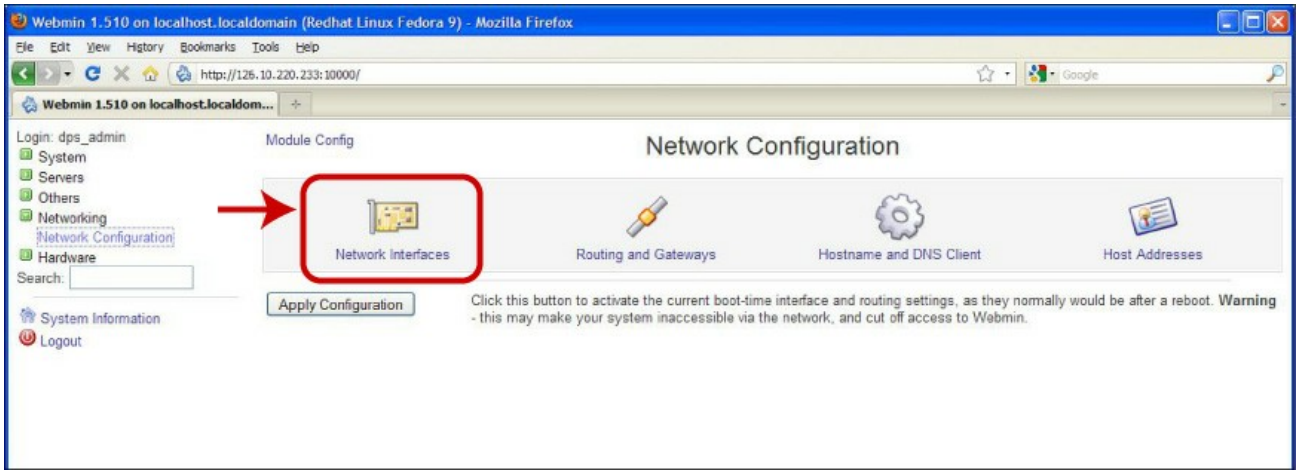
5.2.1 Configuring the NIC Interfaces

Your main network interface, Eth0, was created in the previous step. Use the following instructions for creating Eth1 through Eth5 (Network interfaces 2-6).

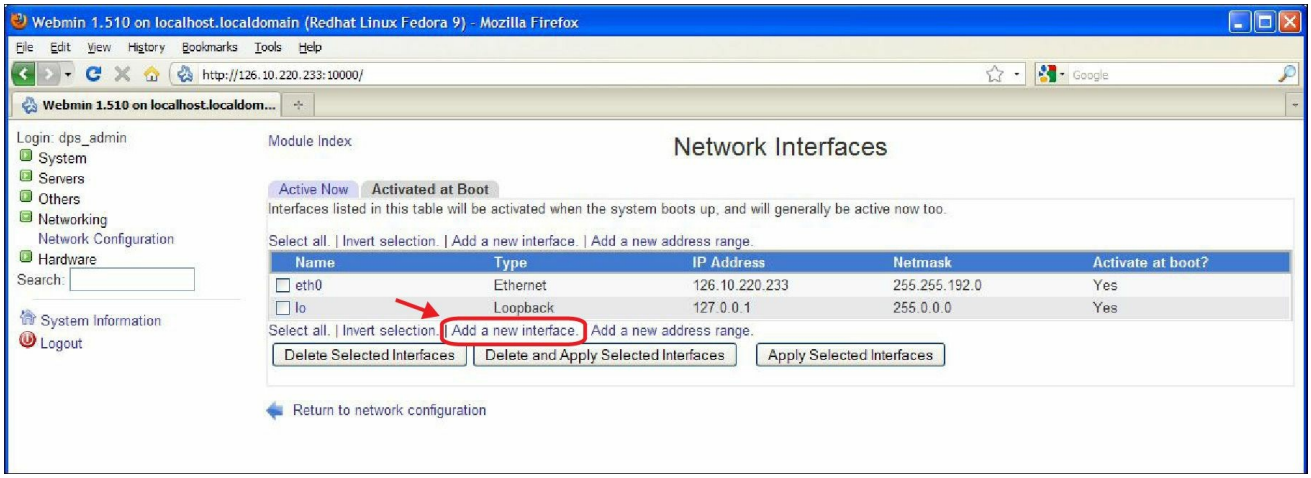
1. After giving the T/Mon LNX an IP address, open an Internet browser and navigate to the IP at port 10000: **http://xxx.xxx.xxx.xxx:10000** (where x's aressss T/Mon's IP address)
2. Login with the default username of "**dps_admin**" and password "**dpstelecom**"


Webmin 1.510 on localhost.localdomain (Redhat Linux Fedora 9) - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://126.10.220.233:10000/
Webmin 1.510 on localhost.localdom...
Login: dps_admin
System
Servers
Others
Networking
Hardware
Search:
System Information
Logout
webmin
System hostname localhost.localdomain
Operating system Redhat Linux Fedora 9
Webmin version 1.510
Time on system Fri Apr 2 13:01:12 2010
Kernel and CPU Linux 2.6.25.14-TMonLNX_v1.0 on x86_64
Processor information Intel(R) Core(TM)2 Quad CPU Q9400 @ 2.66GHz, 4 cores
System uptime 4 hours, 14 minutes
Running processes 144
CPU load averages 1.46 (1 min) 1.48 (5 mins) 1.45 (15 mins)
CPU usage 21% user, 36% kernel, 0% IO, 43% idle
Real memory 3.86 GB total, 259.80 MB used
Virtual memory 1.94 GB total, 0 bytes used
Local disk space 227.25 GB total, 30.40 GB used
Package updates All installed packages are up to date

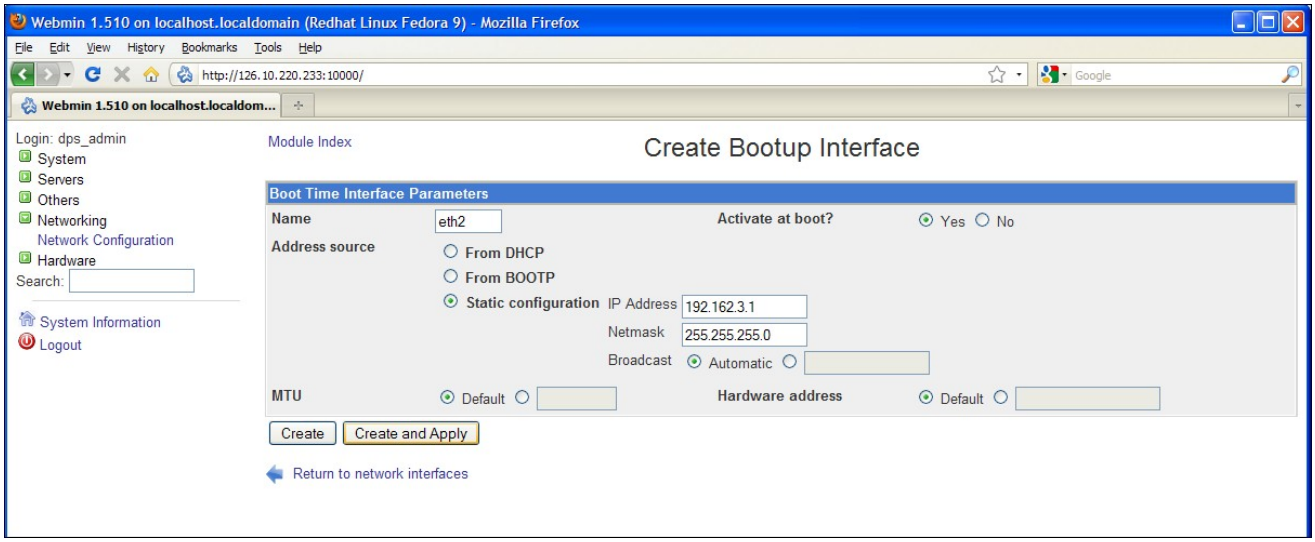
3. In the left frame, click on **Networking**, then click on **Network Configuration**.
4. In the right frame, click on **Network Interfaces**. Click on the **Activated at Boot** tab.


Webmin 1.510 on localhost.localdomain (Redhat Linux Fedora 9) - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://126.10.220.233:10000/
Webmin 1.510 on localhost.localdom...
Login: dps_admin
System
Servers
Others
Networking
Network Configuration
Hardware
Search:
System Information
Logout
Module Config
Network Configuration
Network Interfaces
Routing and Gateways
Hostname and DNS Client
Host Addresses
Apply Configuration
Click this button to activate the current boot-time interface and routing settings, as they normally would be after a reboot. Warning - this may make your system inaccessible via the network, and cut off access to Webmin.

5. Click on **Add a New Interface.**

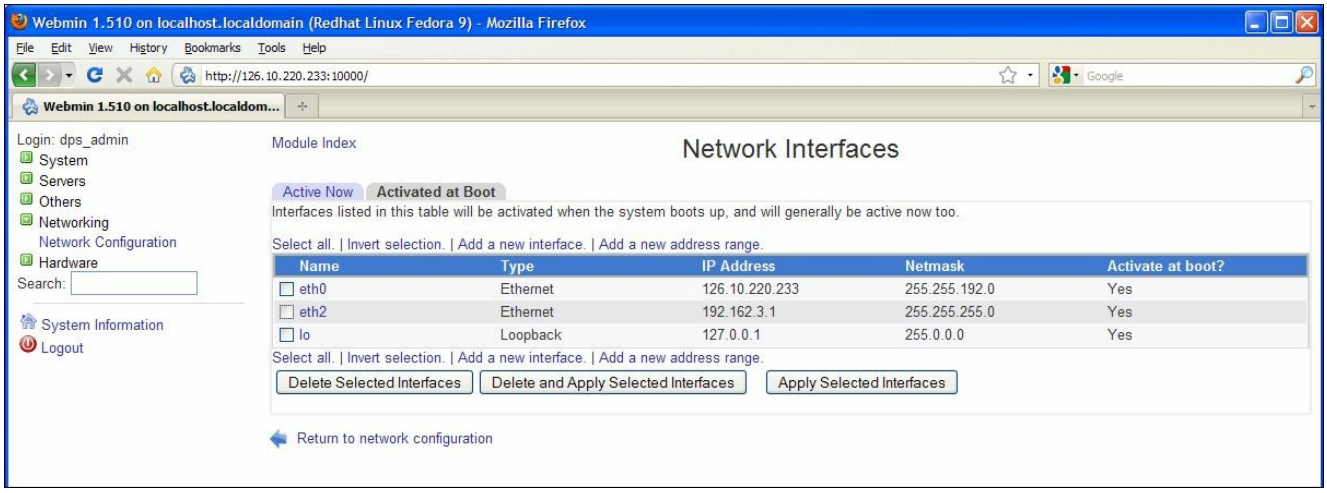


6. In the name field, enter the NIC label on the back of the T/Mon LNX unit you want to use: eth1, eth2, eth3, eth4, or eth5. **NOTE:** If the network is not active, don't define.



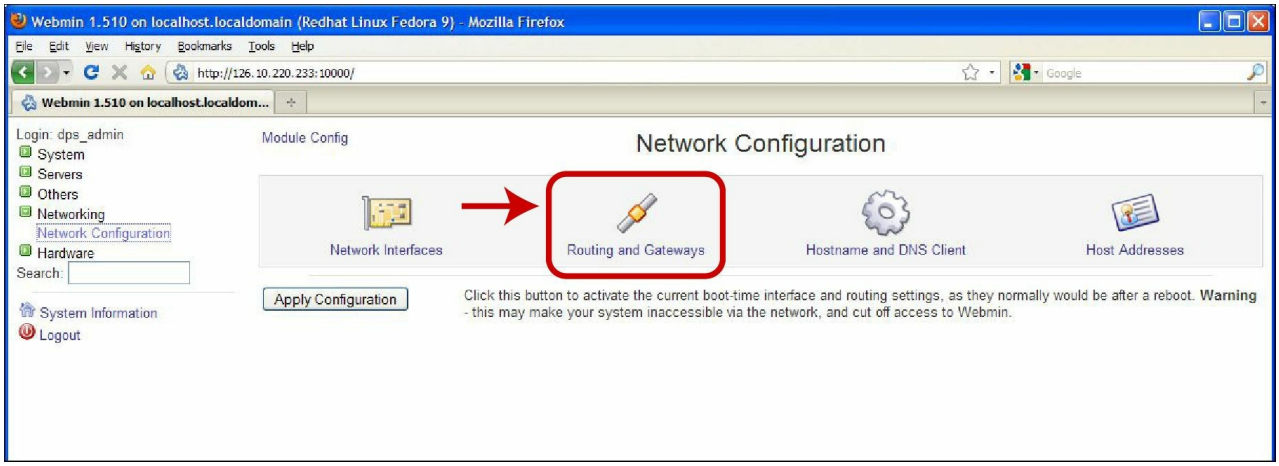
7. Click on **Create and Apply**.

8. The new interface should now appear on the list.

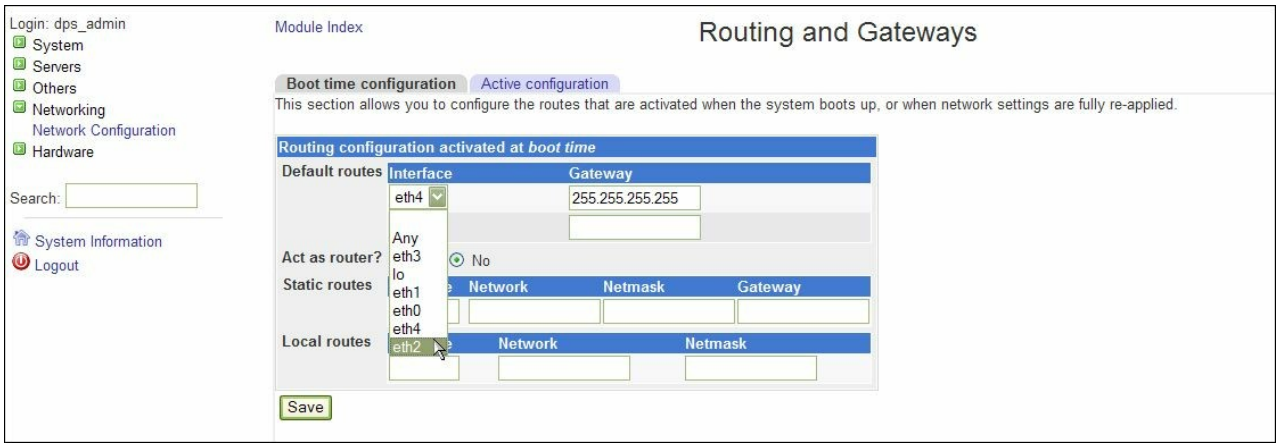


9. Adding gateways to new network interfaces:

- Return to the **Network Configuration** page from Step 3. This time, click on the **Routing and Gateways** icon.

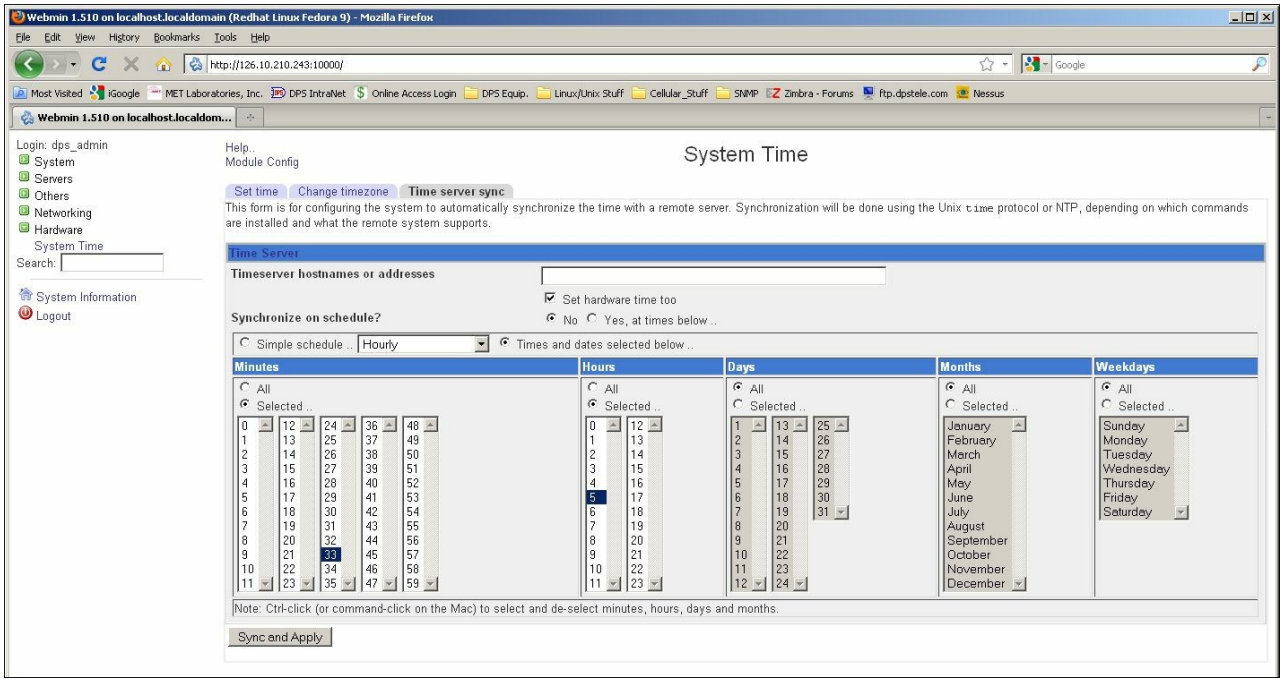

Webmin 1.510 on localhost.localdomain (Redhat Linux Fedora 9) - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://126.10.220.233:10000/
Webmin 1.510 on localhost.localdom...
Login: dps_admin
System
Servers
Others
Networking
Network Configuration
Hardware
Search:
System Information
Logout
Module Config
Network Configuration
Network Interfaces
Routing and Gateways
Hostname and DNS Client
Host Addresses
Apply Configuration
Click this button to activate the current boot-time interface and routing settings, as they normally would be after a reboot. Warning - this may make your system inaccessible via the network, and cut off access to Webmin.

- Select the network interface you've just created from the drop-down menu (Eth2 in this example). Enter the gateway information.
- Select **No** for **Act as router**. Click **Save** to finish.



5.3 Network Time Protocol (NTP)

On T/Mon LNX, time syncing is no longer handled as a job, as previously in the T/Mon NOC & IAM. If an NTP job is defined in your existing T/Mon database, you must set it to "Halted". Use the following instructions to setup NTP using the Webmin interface.

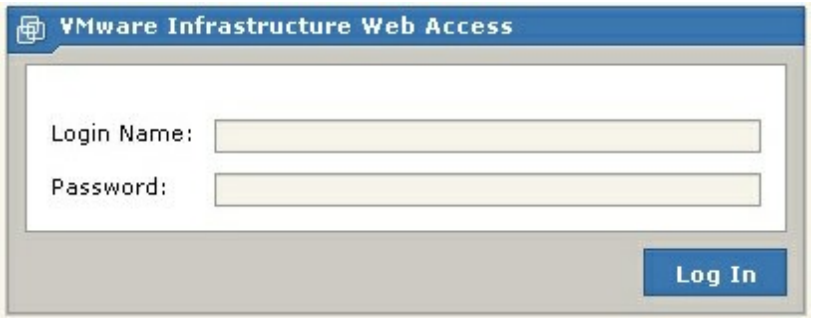


1. In the left navigation pane, click on **Hardware**, then **System Time.** Click on **Time server sync** tab.
2. Enter the **IP address or host name** of the NTP server you want to sync with. *NOTE*: If using the host name, verify that DNS servers are defined in the previous step.
3. Define the **synchronization schedule**. If you are unsure how often to sync, check with your server administrator.
4. Click the **Sync and Apply** button to finish. NOTE: If you are not using Network Time Protocol, but you do want the correct time, click on the Set Time tab to enter it in manually.

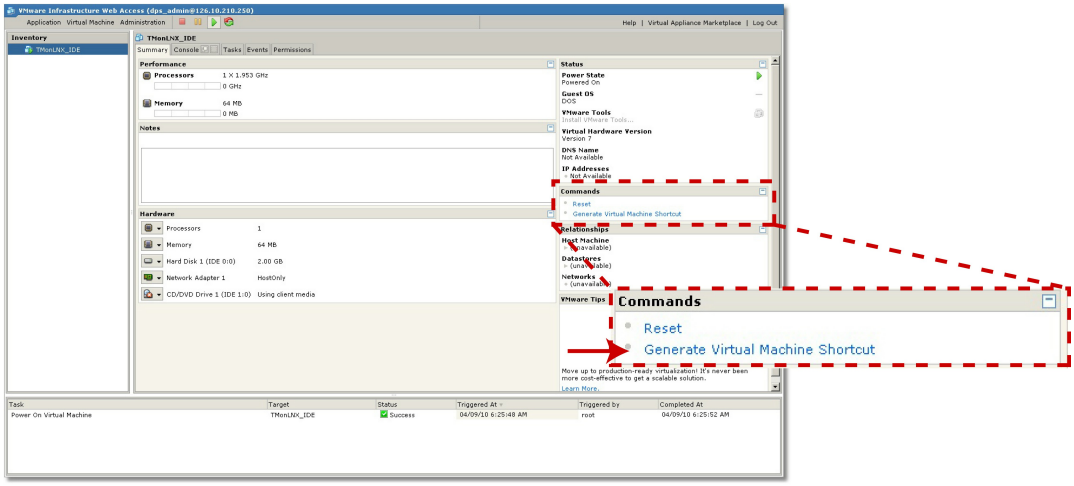
5.4 Create Shortcut to T/Mon Administrative Console

Important: During this process you will be prompted to install a plugin for the browser you are using. Make sure you have the appropriate rights on that machine to install browser plugins.

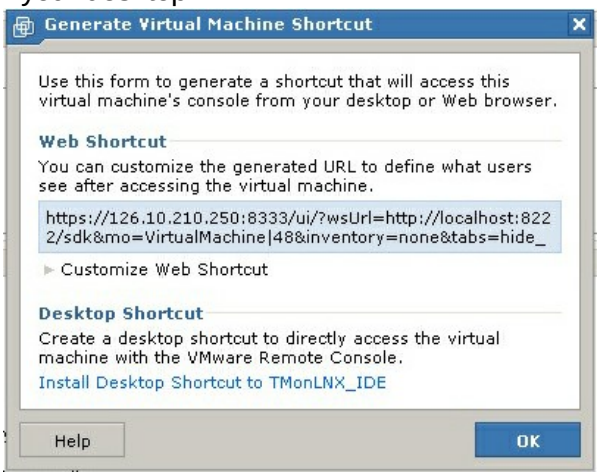
1. Open your web browser (tested with Internet Explorer and Firefox).
2. Enter "**https**://xxx.xxx.xxx.xxx:**8333**", where the xxx is the IP address assigned to the T/Mon LNX. (Make sure it's http**s** for the secure connection.)

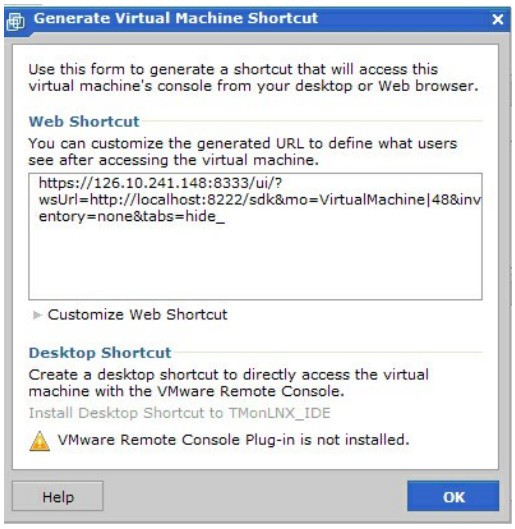


3. Log in with "dps_admin" as the username and "dpstelecom" as the password
4. Click "Generate Virtual Machine Shortcut"

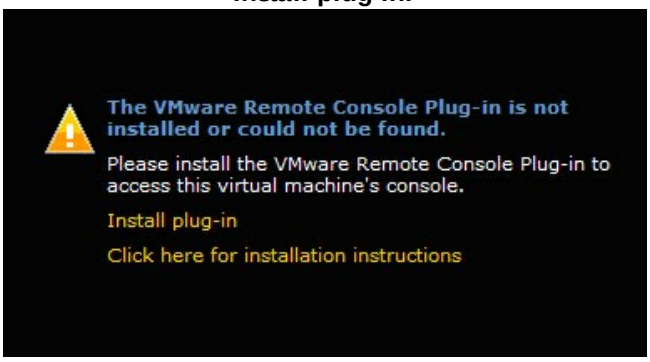


5. Click "Install Desktop Shortcut to TMonLNX_IDE." This will create a shortcut to the main console on your desktop.

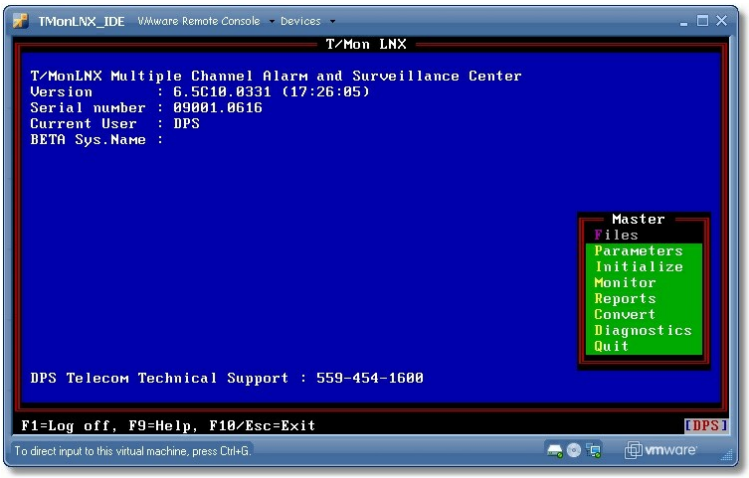

Generate Virtual Machine Shortcut
Use this form to generate a shortcut that will access this virtual machine's console from your desktop or Web browser.
Web Shortcut
You can customize the generated URL to define what users see after accessing the virtual machine.
https://126.10.210.250:8333/ui/?wsUrl=http://localhost:8222/sdk&mo=VirtualMachine|48&inventory=none&tabs=hide_
Customize Web Shortcut
Desktop Shortcut
Create a desktop shortcut to directly access the virtual machine with the VMware Remote Console.
Install Desktop Shortcut to TMonLNX_IDE
Help
OK


Generate Virtual Machine Shortcut
Use this form to generate a shortcut that will access this virtual machine's console from your desktop or Web browser.
Web Shortcut
You can customize the generated URL to define what users see after accessing the virtual machine.
https://126.10.241.148:8333/ui/?wsUrl=http://localhost:8222/sdk&mo=VirtualMachine|48&inventory=none&tabs=hide_
Customize Web Shortcut
Desktop Shortcut
Create a desktop shortcut to directly access the virtual machine with the VMware Remote Console.
Install Desktop Shortcut to TMonLNX_IDE
VMware Remote Console Plug-in is not installed.
Help
OK

NOTE: If the popup says "VMWare Remote Console Plug-in is not installed", click on tbe Console tab > Install plug-in.

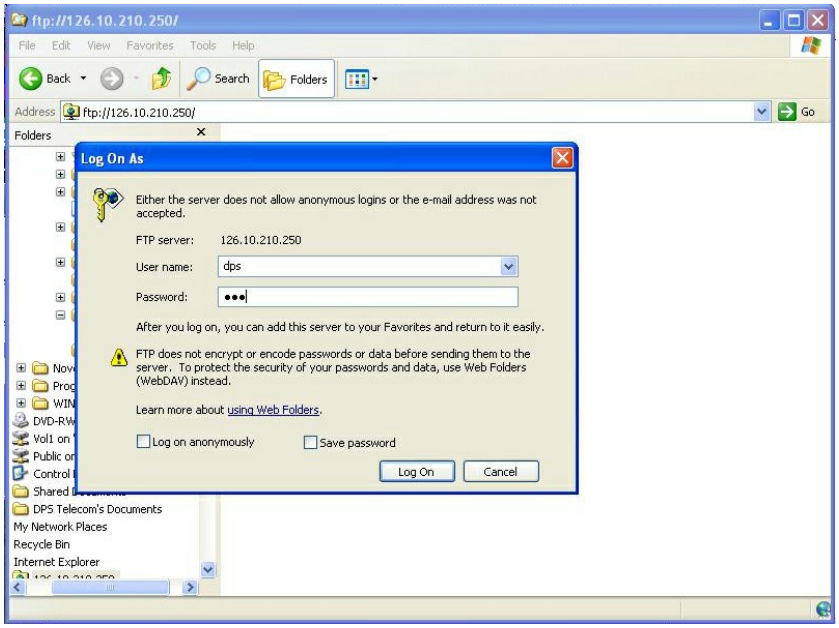

The VMware Remote Console Plug-in is not installed or could not be found.
Please install the VMware Remote Console Plug-in to access this virtual machine's console.
Install plug-in
Click here for installation instructions

6. Double click this icon and log on (the username to login is "DPS" and the password is also "DPS").
7. To direct keyboard input to the console, click anywhere in the window
8. To return keyboard input to the local machine, press CTRL-ALT.

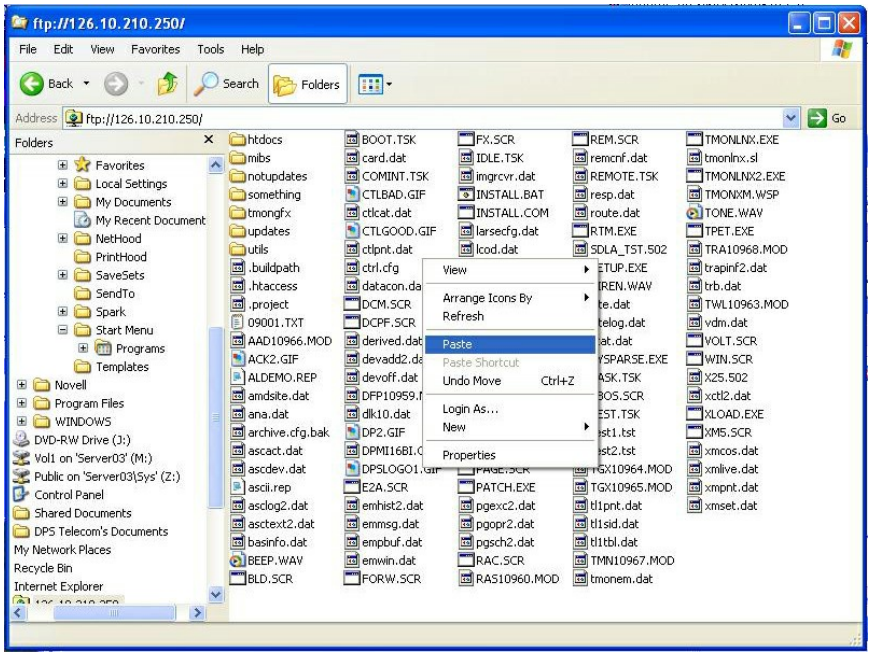


5.5 Loading Existing T/Mon Database

1. Open the **T/Mon LNX FTP server** by right clicking on the Start Menu of the PC and selecting Explore.
2. Clear the address bar at the top and type **ftp://xxx.xxx.xxx.xxx**, where the x's are the IP address of T/Mon LNX.
3. Login to the FTP server. The user name is "**dps**" and password is "**DPS**" (both are case-sensitive).

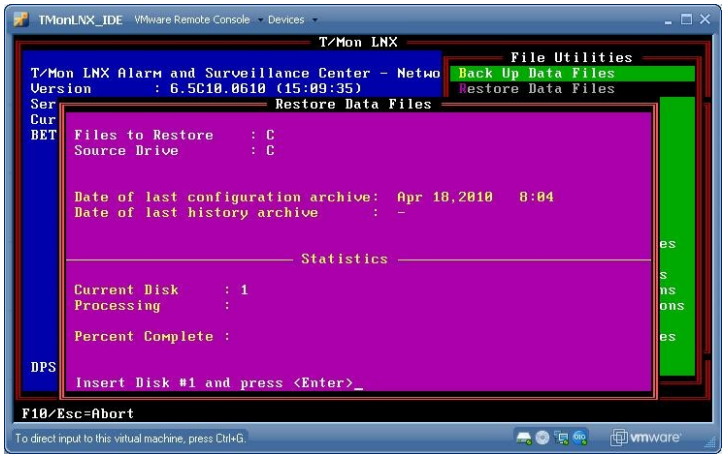

ftp://126.10.210.250/
Log On As
Either the server does not allow anonymous logins or the e-mail address was not accepted.
FTP server: 126.10.210.250
User name: dps
Password:
After you log on, you can add this server to your Favorites and return to it easily.
FTP does not encrypt or encode passwords or data before sending them to the server. To protect the security of your passwords and data, use Web Folders (WebDAV) instead.
Learn more about using Web Folders.
Log on anonymously
Save password
Log On
Cancel

4. Drag and drop your **saved T/Mon database (archive.cfg and ctrl.cfg)** into the root directory of the FTP server. You can also click anywhere on the screen and paste your .cfg files onto the system.



5. Once the files are pasted into the T/Mon LNX, it will take T/Mon approximately **10 minutes** (depending on the size of your database) to convert it over to the T/Mon LNX format.

6. Take T/Mon out of monitor mode by pressing **ESC, R, Enter** and go to **Files > Utilities > Restore Data Files**. Restore the C-Configuration files from the C drive.


TMonLNX_IDE VMware Remote Console Devices
T/Mon LNX
T/Mon LNX Alarm and Surveillance Center - Netwo
Version : 6.5C10.0610 (15:09:35)
File Utilities
Back Up Data Files
Restore Data Files
Restore Data Files
Files to Restore : C
Source Drive : C
Date of last configuration archive: Apr 18,2010 8:04
Date of last history archive : -
Statistics
Current Disk : 1
Processing :
Percent Complete :
Insert Disk #1 and press <Enter>
F10/Esc=Abort
To direct input to this virtual machine, press Ctrl+G.
vmware

7. Hit **Enter** when you see the message "Insert Disk #1 and press <Enter>"
8. Now that your database has been restored, there are a couple differences between the older T/Mon and the new T/Mon LNX that you should be aware of. The main differences that affect us are knowing which TCP ports can **no longer be used**.

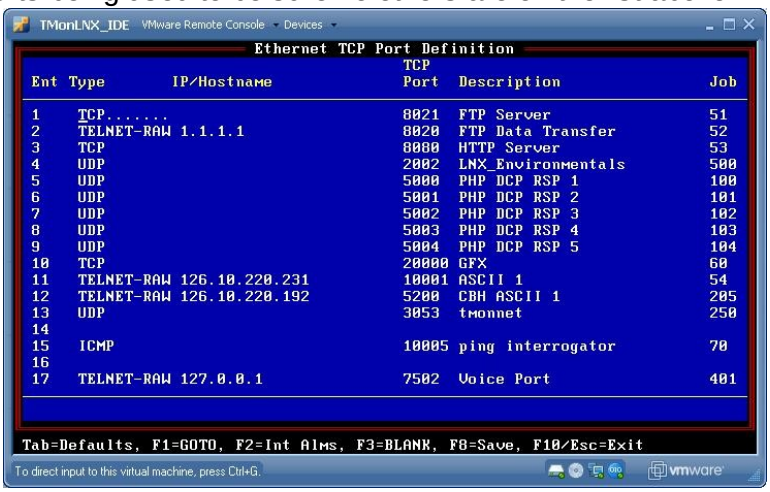
The following is a list of Ports that cannot be used by T/Mon because now the LNX is using them "behind the scenes":

10000	8333
9801	8222
9802	80
9803	20
9811	21
9813	

Most likely the only ports that this will affect are the FTP jobs and the HTTP Web-browser. To work around this we must change these ports **from – to**:

20 to 8020
21 to 8021
80 to 8080

To do this, escape back to the **Master Menu** and go to **Parameters > Remote Ports**. Hit **F** for find and go to **Job 28**. Hit **F1** to view all of the TCP/UDP ports being used by the system. Make sure you enter thru the list and change the ftp ports and Web ports to the new port numbers. It is best to scan thru the rest of the ports being used to be sure no others are on the list above.


TMonLNX_IDE VMware Remote Console Devices
Ethernet TCP Port Definition
Ent Type IP/Hostname TCP Port Description Job
1 TCP..... 8021 FTP Server 51
2 TELNET-RAW 1.1.1.1 8020 FTP Data Transfer 52
3 TCP 8080 HTTP Server 53
4 UDP 2002 LNX_Environmentals 500
5 UDP 5000 PHP DCP RSP 1 100
6 UDP 5001 PHP DCP RSP 2 101
7 UDP 5002 PHP DCP RSP 3 102
8 UDP 5003 PHP DCP RSP 4 103
9 UDP 5004 PHP DCP RSP 5 104
10 TCP 20000 GFX 60
11 TELNET-RAW 126.10.220.231 10001 ASCII 1 54
12 TELNET-RAW 126.10.220.192 5200 CBH ASCII 1 205
13 UDP 3053 tmonnet 250
14
15 ICMP 10005 ping interrogator 70
16
17 TELNET-RAW 127.0.0.1 7502 Voice Port 401
Tab=Defaults, F1=GOTO, F2=Int Alms, F3=BLANK, F8=Save, F10/Esc=Exit
To direct input to this virtual machine, press Ctrl+G.
vmware

6 Optional Software Module: SQL Agent

The T/Mon SQL Agent job is designed to store history events from your T/Mon LNX in a high-speed SQL database. Once in the SQL database, you can query T/Mon history events from any number of outside sources. Storing history events in the SQL database makes the them easily accessible via spreadsheet programs, database access tools, Visual Basic, and server-side web technology. You can also access historical alarm data using the T/Mon History Reporter software module (optional).

Topology drawing of T/Mon EXP running the SQL Agent.

6.1 Remote Parameters Settings

Setup the TMon SQL job in the Remote Parameters menu. The job must be run on one of the virtual ports (30+). Use the default “Time out” value.

Refer to Table II for field definitions and Table III for function key descriptions.

XM/Demo
COM Parameters
Job : 50 TMon Agent (TELNET-RAW Port 3000)
Port Usage : TMon SQL
Description : Connection to SQL Database
Time out : 5000
F)ind, E)dit, N)ext, P)rev, Q)uit :
F1=Devices, F5=Toggle Suspend, F6=Data Connection, AF5=Move, F10/Esc=Exit

Configure settings for communicating with the T/Mon SQL Agent in the Parameters > TMonNet > TMon SQL sub-menu options

Remote Parameters screen defined for T/Mon SQL Agent.

Field	Description
Port Usage	TMon SQL
Description	Optional. Enter a description for this port job. [blank]
Time Out	Time the T/Mon will wait for a response before failing a poll. Valid entries are 200 to 9999 milliseconds. Use default time of 5000.

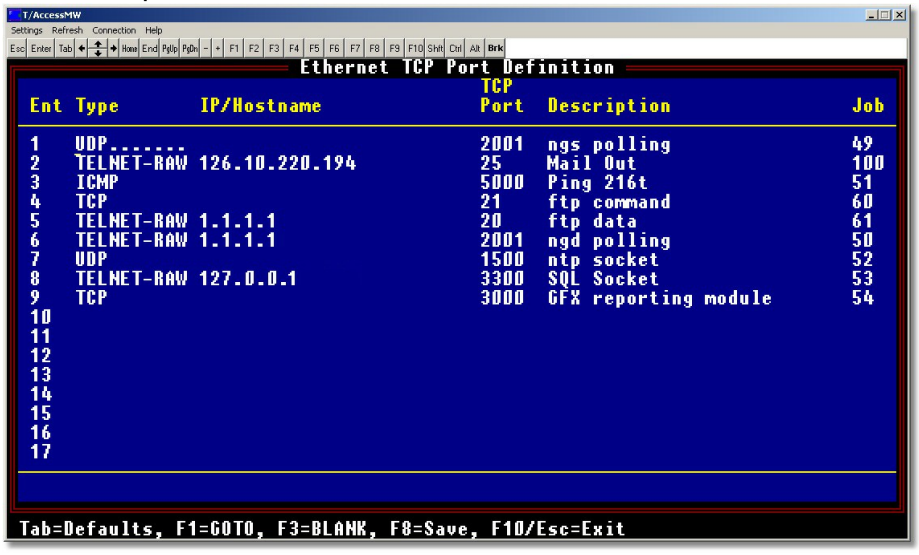
Key commands available in the Remote Parameters Screen.

Function Key	Description
F1	Devices. Define the T/Mon SQL Agent address, alarm displays, and alarm points that are on the current remote port.
F5	Toggle Suspend. Allows you to define but temporarily halt or suspend this function.
F6	Data Connection. (IP / virtual port connections only).
Alt-F5	Allows you to move the port.
F10-Esc	Exit.

6.2 Setup a Data Connection

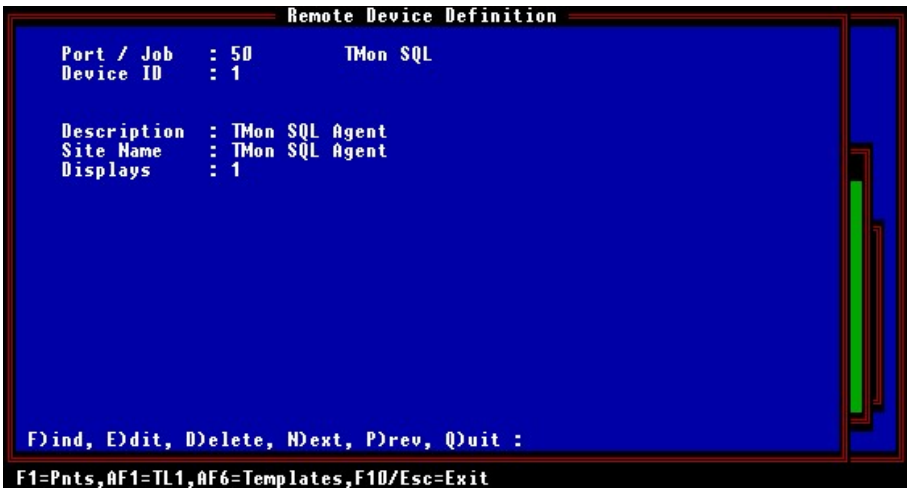
Setup a TELNET-RAW data connection in the Ethernet TCP Port Definition screen by **pressing F6** (Data Connection) from the Remote Parameters screen.

Set the IP to 127.0.0.1 and port to 3300.


T/AccessMW
Settings Refresh Connection Help
Ethernet TCP Port Definition
Ent Type IP/Hostname TCP Port Description Job
1 UDP..... 2001 ngs polling 49
2 TELNET-RAW 126.10.220.194 25 Mail Out 100
3 ICMP 5000 Ping 216t 51
4 TCP 21 ftp command 60
5 TELNET-RAW 1.1.1.1 20 ftp data 61
6 TELNET-RAW 1.1.1.1 2001 ngd polling 50
7 UDP 1500 ntp socket 52
8 TELNET-RAW 127.0.0.1 3300 SQL Socket 53
9 TCP 3000 GFX reporting module 54
10
11
12
13
14
15
16
17
Tab=Defaults, F1=GOTO, F3=BLANK, F8=Save, F10/Esc=Exit

6.3 Define the Remote Device

Define the T/Mon SQL Agent remote device on address 1. Use the default "Description", "Site Name", and "Display" values.


Remote Device Definition
Port / Job : 50 TMon SQL
Device ID : 1
Description : TMon SQL Agent
Site Name : TMon SQL Agent
Displays : 1
F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
F1=Pnts,AF1=TL1,AF6=Templates,F10/Esc=Exit

Remote Device Definition screen defined for the T/Mon SQL Agent.

Field	Description
Port	This port number.
Address	Address of this T/Mon SQL Agent. Use Address 1.
Description	Optional device description.
Site Name	Optional site name. This name will identify the site in the Monitor Mode and will be stamped on all events.
Displays	**Do not change the default Displays setting (1)**. Number of displays reserved for collection.

6.4 Internal Alarms

The following housekeeping alarms (AKA internal alarms) are available for the T/Mon SQL Agent (address 1):

Cannot communicate with T/Mon SQL Agent: This alarm is set when the T/Mon SQL Agent fails to respond to the T/Mon's keep-alive request or the T/Mon is unable to establish a TCP network connection with the T/Mon SQL Agent. This alarm clears when the T/Mon SQL Agent successfully responds to the T/Mon's keep-alive request.

Cannot connect TCP with T/Mon SQL Agent: This alarm is set when the T/Mon is unable to establish a TCP network connection with the T/Mon SQL Agent. This alarm clears when the T/Mon is able to establish a TCP network connection with the T/Mon SQL Agent.

Excessive Errors - See Performance/Stats: This alarm is set when the T/Mon receives an excessive amount of error messages. The purpose of this alarm is to prompt the user to look at the Performance/Stats Window. This alarm clears when the Performance/Stats are reset (Alt-F2) or the T/Mon is re-initialized.

SQL Server Failed - see T/Mon SQL Agent: This alarm is set when the T/Mon SQL Agent loses communication with the SQL Server. If this happens you should check if the SQL Server is still

running. This alarm clears when the T/Mon SQL Agent restores communication with the server.

6.5 Performance Stats in Monitor Mode

The following performance statistics are displayed in the Performance/Stats Window from Monitor Mode:

Sync Tot: Total number of history synchronization attempts.
Sync Ok: Total number of successfully completed history synchronizations.
Hst Evt Tot: Total number of history events sent.
Hst Evt Ok: Total number of successfully completed history events.
Time Out: Received a partial message.
No Response: Receive no message.
New CMD Err: Received an unknown command.
Msg Err: Received an invalid message.
Noise Chars: Invalid/unexpected characters.
Comm Err: Failed attempt to communicate with T/Mon SQL Agent (Keep-Alive or TCP connection).

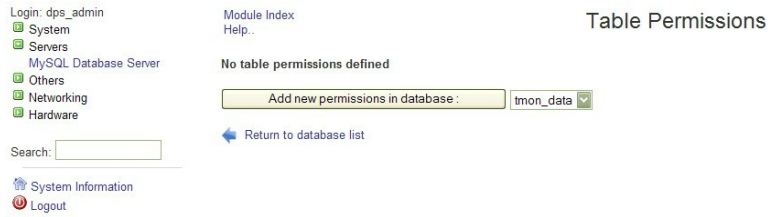
6.6 Adding New Users to the SQL Server

By default, the **dps_admin** user should have access rights to the **tmon_history** table in the SQL database. If the dps_admin user does not have access rights, or you wish to grant access rights to an additional LNX user, you can grant access rights through your T/Mon's Webmin interface.

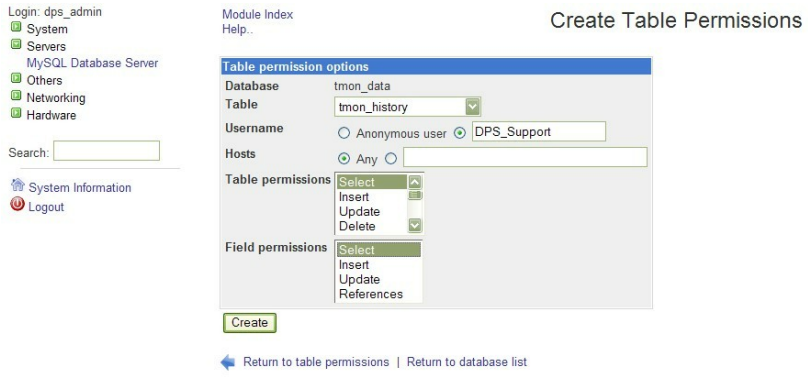
Note: LNX users are **not** the same as T/Mon users. LNX users are independently managed through the Webmin interface.

To grant or edit access rights to the tmon_history table:
1. Log into **Webmin** - http://IPAddress:10000 (Username: dps_admin; Password: dpstelecom)
2. Click **Servers** > **MySQL Database Server**.

3. Click **Table Permissions**.



4. Click **Add New Permissions in Database**.
5. Enter data for the new user:
   - Choose the **Table** you want the new user to be able to access (typically **tmon_history**) from the drop-down menu
   - In the **Username** field, select the right-most radio button (next to the open text box), and enter the name of the user you wish to grant access to the table. (Typically **dps_admin**)
   - Leave **Hosts** set to **Any**
   - Select all table and field permissions.



6. Click **Create** to finish.

Note: If, after adding table permissions, you still cannot access the SQL Server, **contact DPS Support.**

6.7 Data Dictionary

(Tmon_history) Data Dictionary field descriptions

Field Name	Field Type	Description	ArrowNull	Key	Default
IPAddr	varchar(15)	IP Address of the TMon.		PRI	
IPPort	smalliant(6)	IP Port of the TMon.		PRI	0
EventDateTime	datetime	The date and time which the TMon received the event.		PRI	0000-00-00 00:00:00
Port	smallint(6)	The port which the TMon received the event on.			0
Address	smallint(6)	The address which the TMon received the event on.			0
Display	smallint(6)	The display which the TMon received the event on.			0
Point	smallint(6)	The point which the TMon received the event on			0

EventCounter	tinyint(4) unsigned	Forms a unique identifier when used in conjunction with the EventDateTime.		PRI	0
AckDateTime	datetime	The date and time which the event was acknowledged. This field is only relevant if the “Initials” field is not blank.	YES		
Initials	varchar(10)	The initials of the user that acknowledged the alarm.	YES		
AlarmState	char(1)	The state of the event. • ‘S’=Silenced • ‘C’=Cleared • ‘F’=Set	YES	MUL	
AlarmLevel	char(1)	The severity level of the event. • ‘A’=Critical • ‘B’=Major • ‘C’=Minor • ‘D’=Status	YES		
SubDevice	char(3)	Name of the sub-device which reported the event.	YES		
SiteName	varchar(40)	Name of the site which reported the event.	YES		
PointName	varchar(40)	Name of the point which corresponds to the event.	YES		
AuxPointName	varchar(40)	Auxiliary name of the point which corresponds to the event.	YES		
AlarmStatus	varchar(8)	Description of the current status of the event.	YES		
DispDesc	varchar(40)	Name of the display which the TMon received the event on.	YES		
	datetime	The date and time which the device that reported the event to the TMon received the event.	YES		
TStamp	timestamp	Current timestamp used by Microsoft Access.	YES		CURRENT_ TIMESTAMP

Data Dictionary key names and field names

Key Name	Field Name	Collation	Cardinality
PRIMARY	IPAddr	A	
PRIMARY	IPPort	A	
PRIMARY	EventDateTime	A	
PRIMARY	EventCounter	A	7776
INDEX ack	Initials	A	
INDEX ack	AckDateTime	A	
INDEX ack	EventDateTime	A	

(file_list) List of dat files that can be transferred to the SQL database. Used to determine if the file has changed and needs to retrieved.

Field Name	Field Type	Description	ArrowNul 1	Key	Default
IP Addr	Varchar(13)	IP Address of T/Mon where packet came from		Yes	
FileName	Varchar(15)	Name of T/Mon DAT file		Yes	
TimeStamp	Varchar(30)	Timestamp if T/Mon DAT file			
CRC	Varchar(30)	CRC of received DAT file			0

(tmon_history_windows) This table contains the windows associated with each alarm point from the tmon_history table.

Field Name	Field Type	Description	ArrowNul 1	Key	Default
IP Addr	Varchar(15)	IP Address of T/Mon where the packets came from.		Yes	
IPPort	Smallinit(6)	Port of the SQL connection on T/ Mon.		Yes	0
EventDateTime	Datetime	Date and Time which the T/Mon received the event.		Yes	0000-00-00 00:00:00
Event Counter	Double(4	Forms a unique identifier when used in conjunction with EventDateTime.		Yes	0
WindIDX	Smallinit(6)	Windows index. This ranges from 1 to 8. Each alarm point on T/Mon can be associated with up to 8 windows.		Yes	0
Window	Smallinit(	Windows value. This is the window that an associated alarm would report to.			0

(DAT_EMWIN) This table contains data from EMWIN.dat on T/Mon

Field Name	Field Type	Description	ArrowNul 1	Key	Default
WindIdx	Smallinit(6)	Tmon window index		Yes	0
WinName	Varchar(15)	Window name	Yes		
WinDesc	Varchar(41)	Window description	Yes		

7 Optional Software Module: Site Dialer for T/Mon LNX

Most of the configuration for this application is done on the T/Mon LNX. The Site Dialer only requires that the hardware be setup and that the unit has an IP address.

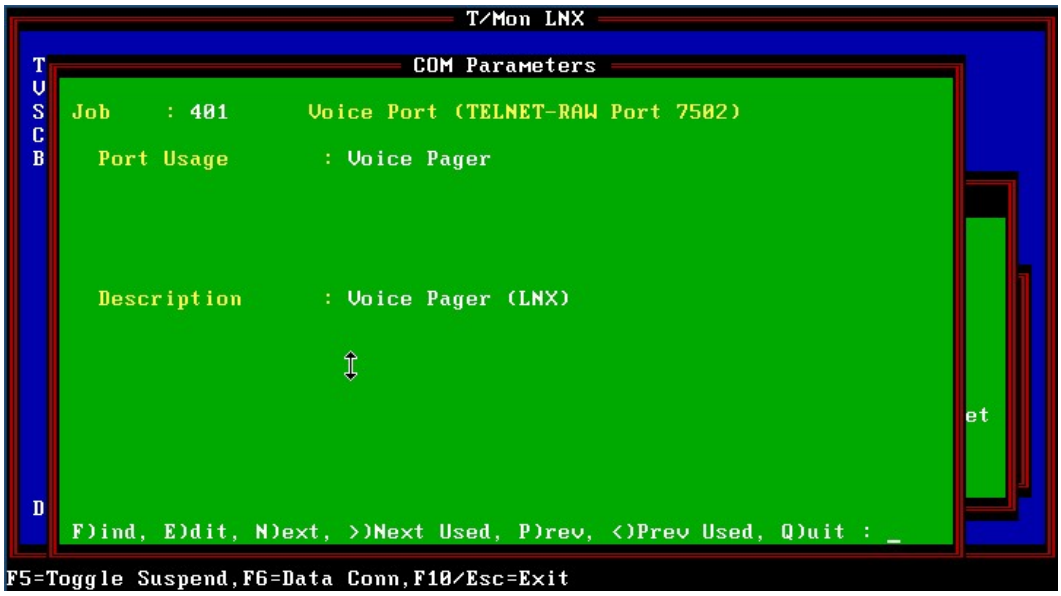
In order for the Site Dialer application to work, you'll need the following components:

- T/Mon LNX
- Site Dialer RTU for T/Mon LNX
- Site Dialer software module for the LNX

The following steps assume you already have the following configured in your T/Mon LNX. For help, see Section Three in the T/Mon manual.

- Pager Job
- Ethernet Job

7.1 Step 1: Setup the Voice Pager Job


T/Mon LNX
COM Parameters
Job : 401 Voice Port (TELNET-RAW Port 7502)
Port Usage : Voice Pager
Description : Voice Pager (LNX)
F)ind, E)dit, N)ext, >)Next Used, P)rev, <)Prev Used, Q)uit :
F5=Toggle Suspend,F6=Data Conn,F10/Esc=Exit

1. On the Remote Parameters screen (accessed from Main menu > Parameters > Remote Ports), press F)ind to locate the next available job above 47.
2. Press E)dit.
3. Press Tab and select Voice Pager from the submenu. (This is the job that “talks” to the T/Mon LNX.) Press Enter.
4. Enter a description (optional) and press Enter. You will see “No Data Connection” flashing at the top of the screen.
5. Press F6 to go to the Data Connection Assignment screen.
6. Press F1 to begin creating the assignment.
   a. Type: TELNET-RAW
   b. IP / Host Name: Enter 127.0.0.1 (This is the default local host name.)
   c. TCP Port: 7502. (This is the default port.)
   d. Description: Enter a description here, such as ‘Site Dialer LNX’.
   e. Hit F8 to Save. You’ll now be back on the Data Connection Assignment screen.
7. Tab over to the new data connection you’ve just created and press Enter.

7.2 Step 2: Setup the Site Dialer RTU Job

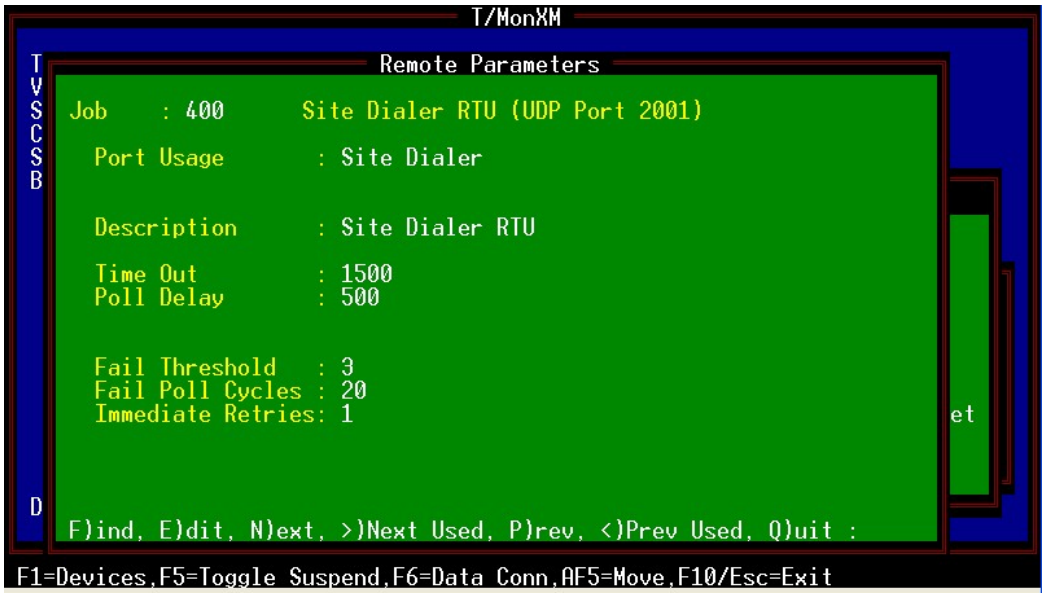
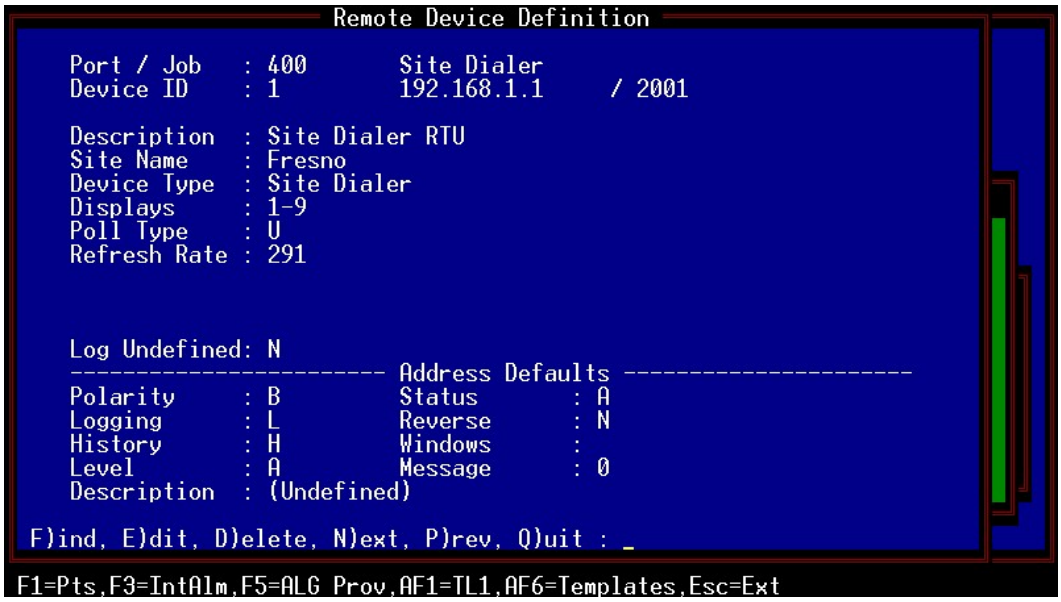

T/MonXM
Remote Parameters
Job : 400 Site Dialer RTU (UDP Port 2001)
Port Usage : Site Dialer
Description : Site Dialer RTU
Time Out : 1500
Poll Delay : 500
Fail Threshold : 3
Fail Poll Cycles : 20
Immediate Retries: 1
F)ind, E)dit, N)ext, >)Next Used, P)rev, <)Prev Used, Q)uit :
F1=Devices,F5=Toggle Suspend,F6=Data Conn,AF5=Move,F10/Esc=Exit

Figure 9b

1. On the Remote Parameters screen, press F)ind to locate the next available job.
2. Press Tab to select Site Dialer from the submenu, then press Enter. (This is the job that “talks” to the Site Dialer RTU.)
3. Description is optional. Press Enter to select all the defaults for Time Out, Poll Delay, Fail Threshold, Fail Poll Cycles, and Immediate Retries.
4. Press F6 to go to the Data Connection Assignment screen.
5. Press F1 to begin creating the assignment.
   a. Type: UDP (DPS RTU, SNMP Trap Processing, SNMP Agent)
   b. TCP Port: 2001
   c. Description: Enter a description here, such as “Site Dialer RTU”.
   d. Hit F8 to Save. You’ll now be back on the Data Connection Assignment screen.
6. Tab over to the new data connection you’ve just created and press Enter.

7.3 Step 3: Create the Site Dialer Device

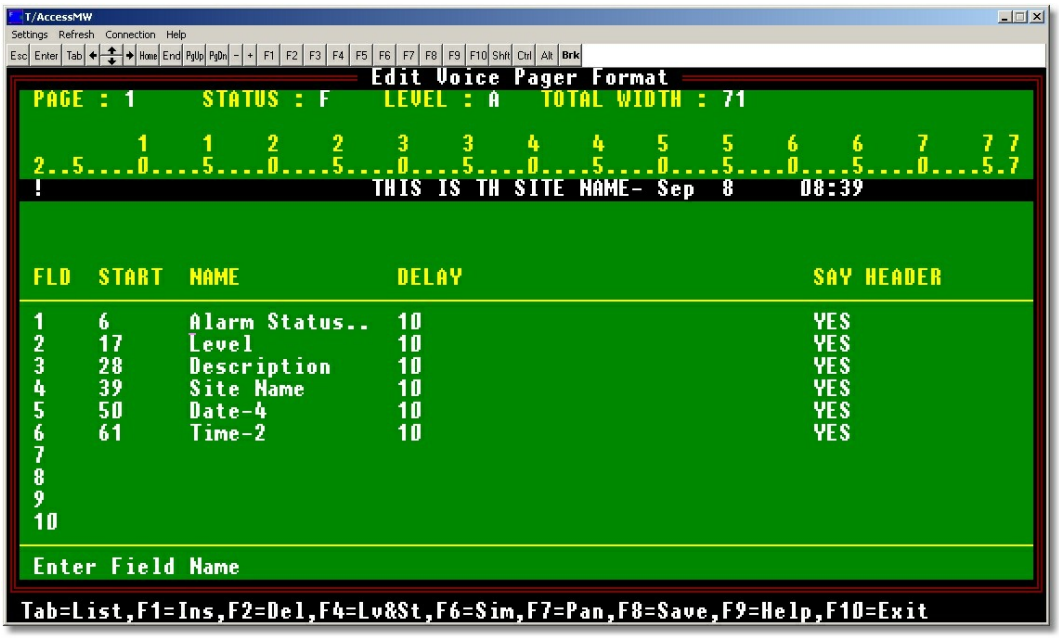

Remote Device Definition
Port / Job : 400 Site Dialer
Device ID : 1 192.168.1.1 / 2001
Description : Site Dialer RTU
Site Name : Fresno
Device Type : Site Dialer
Displays : 1-9
Poll Type : U
Refresh Rate : 291
Log Undefined: N
Address Defaults
Polarity : B Status : A
Logging : L Reverse : N
History : H Windows :
Level : A Message : 0
Description : (Undefined)
F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit : _
F1=Pts,F3=IntAlm,F5=ALG Prov,AF1=TL1,AF6=Templates,Esc=Ext

1. Back on the Remote Parameters screen, press F1 to create the device.
2. Enter the Device ID. The default is 1, unless you've changed it in the RTU. (This is the DCP address of the RTU.)
3. At the bottom of the screen, you'll see the message: "This item is not in the database. Would you like to add it (Y/N)?" Press Y)es.
4. Enter in the IP address and port (default is 2001) of the Site Dialer RTU.
5. Description and Site Name are optional.
6. For Device Type, select Site Dialer. (This is the only option.)
7. Press Enter to select all the defaults for Displays, Poll Type and Refresh Rate.
8. Press Enter to select all the defaults under Address Defaults.

7.4 Step 4: Setup Pager Carriers

1. Go back to the main Master menu and choose Files.
2. Select Pager > Pager Carriers. This is where you add your operators, who get called when an alarm comes in.
3. Enter in the Int (Initials) and Name for your operators.
4. For Type, select V for Voice.
5. For Pager/Phone, enter the phone number to call.
6. The ID/Delay field should be filled in for added security. This is the ID you'll press on your phone to acknowledge an alarm. Example: If your ID is 123, you'll press 123# to ack an alarm from your phone. If you did not enter in an ID, you'll simply press # to ack.
7. Finish entering in all your operators and press F8 to Save.

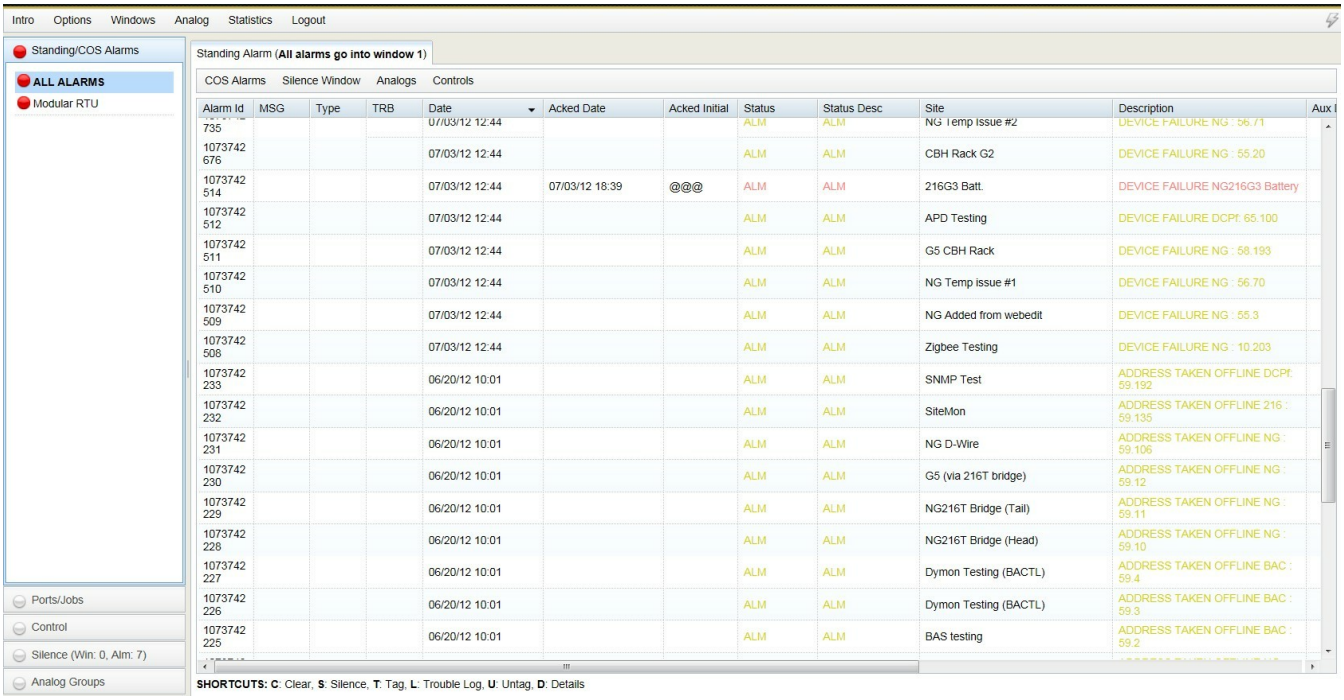
7.5 Step 5: Define Voice Format


T/AccessMW
Settings Refresh Connection Help
Edit Voice Pager Format
PAGE : 1 STATUS : F LEVEL : A TOTAL WIDTH : 71
THIS IS TH SITE NAME- Sep 8 08:39
FLD START NAME DELAY SAY HEADER
1 6 Alarm Status.. 10 YES
2 17 Level 10 YES
3 28 Description 10 YES
4 39 Site Name 10 YES
5 50 Date-4 10 YES
6 61 Time-2 10 YES
Enter Field Name
Tab=List,F1=Ins,F2=Del,F4=Lv&St,F6=Sim,F7=Pan,F8=Save,F9=Help,F10=Exit

1. From the Pager sub-menu, select Voice Format.
2. Define what T/Mon fields you;d like to include the spoken phrase.

8 T/Mon Web 3.0

Overview



Navigating through T/Mon Web 3.0

The new T/Mon web interface is more intuitive than ever. Now, you can right-click on any alarm point to perform tasks such as viewing alarm detail, analogs, silencing, and issuing controls. New keyboard shortcuts and colored icons help you stay organized while keeping tabs on changing network conditions. You can now use the keyboard arrow keys for navigation and sort columns by clicking the headers. You can also hide columns on a per user basis.

Changing Pane Sizes

When viewing lots of alarm details at once, you can grab the edge of the frame drag it to be as big/ small as you like. In Web 3.0, each window is opened in a new tab. You're able to view a single tab at a time (**NOTE:** Your old tab won't close when a new window is opened in a new tab).

Top-Most Menu Links - Quick Overview

Intro - Takes you to the Introduction Page

Options - Allows you to set the default context (this is the landing page after login)

Windows - Jump to 1 of T/Mon's 1200 windows and view standing/COS counts

Analog - Allows you to create and manage analog groups, useful for analog trending and gauges

Statistics - Request statistics

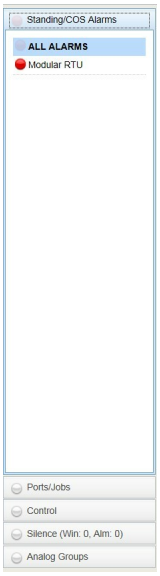
Logout - Log out of the Monitor Mode web interface

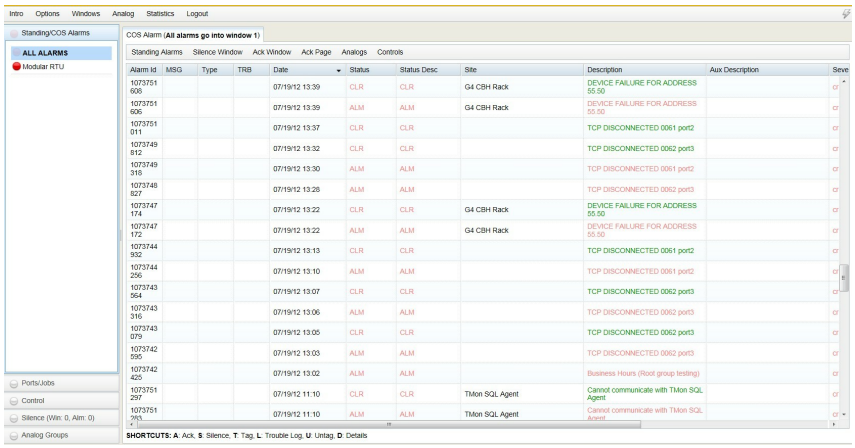
After logging into the web interface, you will use the Accordion Pane off to the left of your screen to jump to the 5 main monitoring screens: **Standing / COS Alarms, Ports / Jobs, Controls, Silence**, and **Analog Groups.**

8.1 Standing / COS Alarms

After logging in to the T/Mon web interface, you will arrive at the Standing / COS Alarm screen. The blinking circles in the accordion pane (off to the left) indicate the highest severity for alarms under that category.

Accordion Pane





Under the title bar, there are links to view and acknowledge other alarms. **NOTE**: Some links are unavailable or grayed out when (1) there are no alarms of that type or (2) you are already viewing that screen, or your user rights do not permit that action.

Standing Alarms - Click to jump to Standing Alarms only.

COS Alarms - Click to jump to COS (Change of State) alarms.

Silence Window - Silences all alarms in the window you specify.

Ack Window - Acknowledges all alarms in the window you specify.

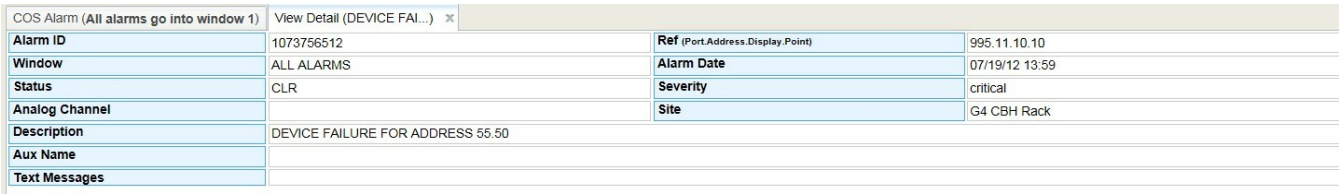
Ack Page - Acknowledges alarms currently being viewed on that web page.

Analogs - Click to see only the Standing / COS Alarms tied to an analog.

Controls - Click to see the site controls defined for this window.

8.1.1 View Detail

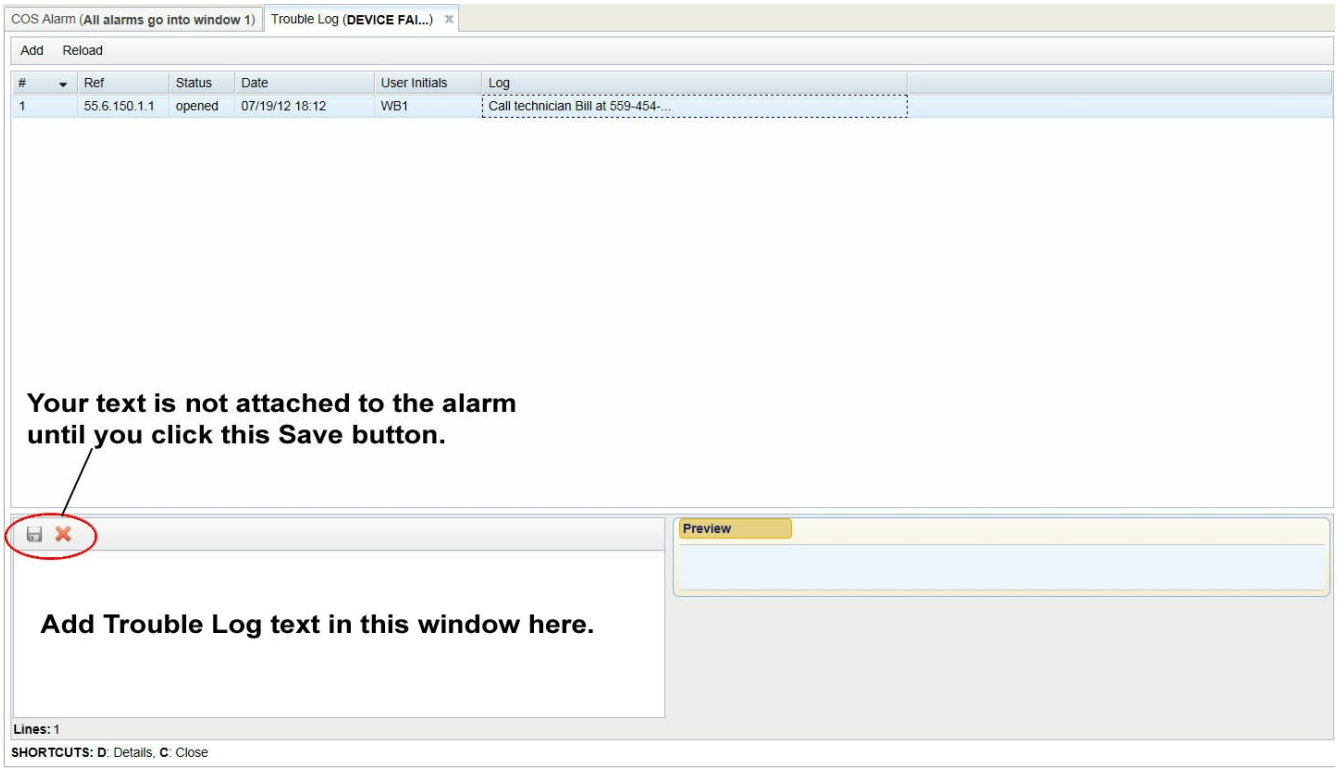
Viewing alarm detail allows you to see the Alarm ID, the windows the alarm is associated to, the alarm description, and more. You can also Ack the alarm from the View Detail screen using the button in the upper-right. **NOTE:** Even though the alarm has been acked, the details pane will remain open until you close it.



8.1.2 Trouble Log

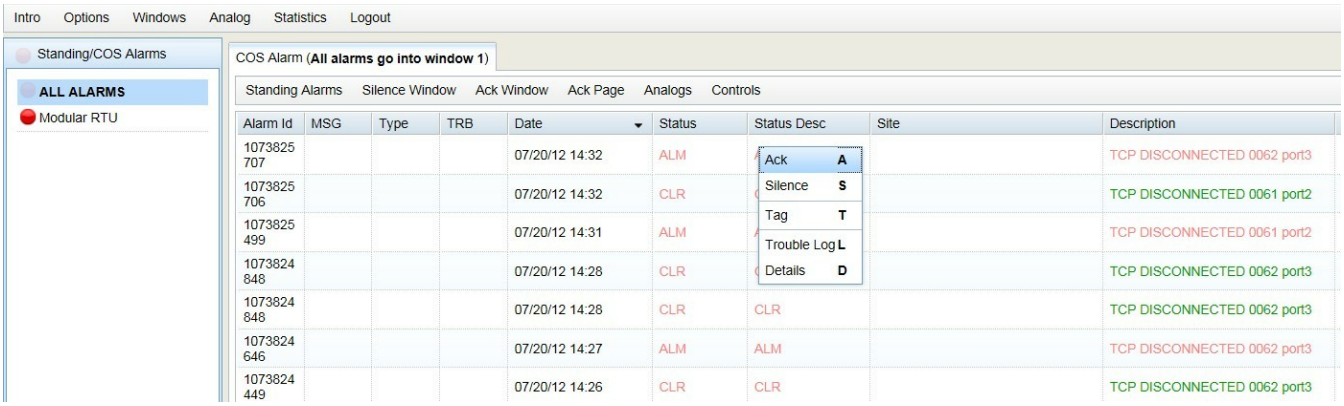
T/Mon's trouble log allows system operators to record what corrective action was taken for each alarm. This feature is especially useful to prevent any confusion after shift changes.

1. To create a trouble log, right-click the alarm or hit the 'L' key.
2. Click the 'Add' button in the Add Trouble Log box.
3. Click inside the empty text field and start entering your text. The maximum number of characters that will fit is 45 per line. **NOTE**: Your text is not attached to the alarm until you click the Save button.


COS Alarm (All alarms go into window 1)
Trouble Log (DEVICE FAI...)
Add
Reload
Ref Status Date User Initials Log
1 55.6.150.1.1 opened 07/19/12 18:12 WB1 Call technician Bill at 559-454-...
Your text is not attached to the alarm until you click this Save button.
Preview
Add Trouble Log text in this window here.
Lines: 1
SHORTCUTS: D: Details, C: Close

8.1.3 Ack (Acknowledge)

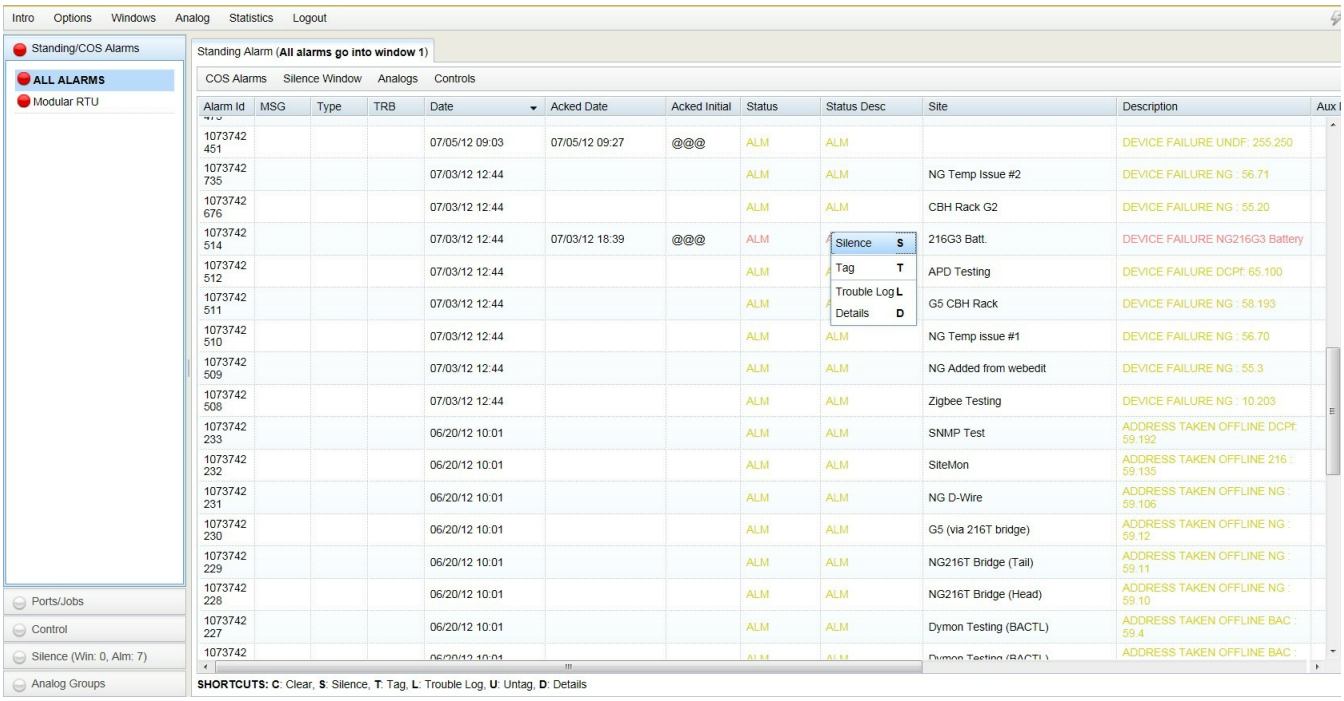
Acknowledging an alarm clears it from the COS list. To Ack an alarm, right-click and choose 'Ack', or hit the 'A' key. The COS alarm will now disappear from the list.



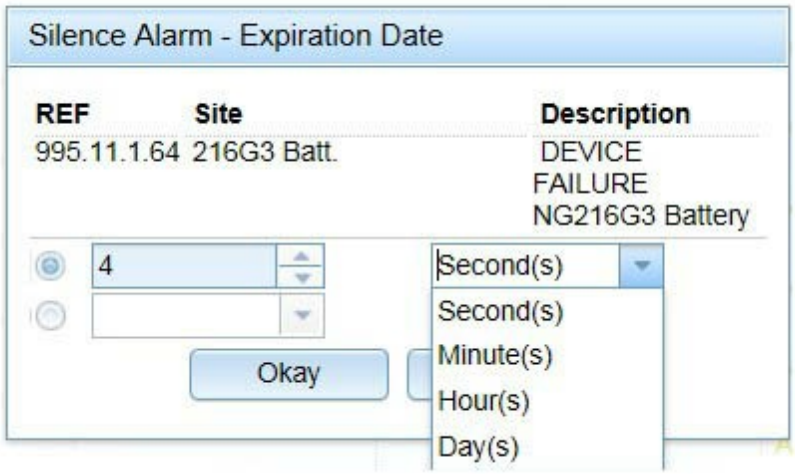
8.1.4 Silence

One of the options for Standing / COS Alarms is to Silence. This acts like a 'snooze' feature that quiets an alarm for a certain period of time. Silencing an alarm is different than Acking (Acknowledging) the alarm, since the alarm returns after the "snooze" period is over.

To Silence, right-click the alarm and choose 'Silence', or hit the 'S' key.



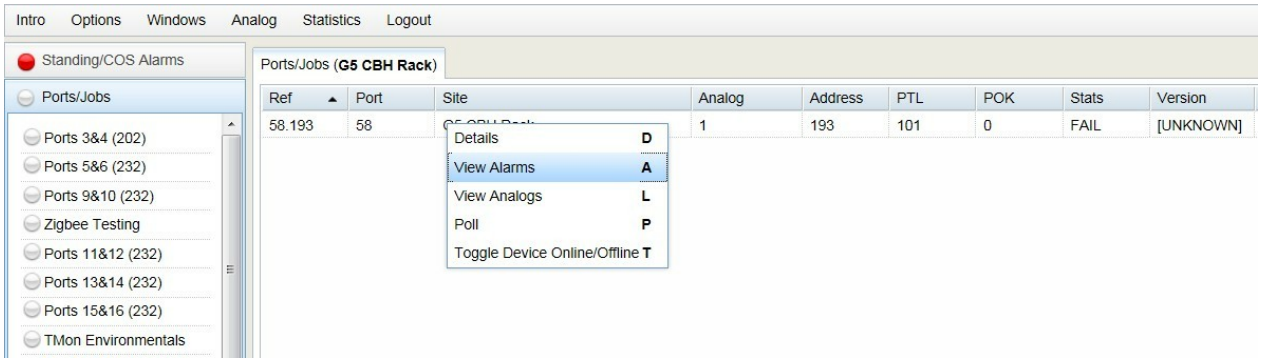
Next, you'll be prompted to choose an Expiration Date/Time. This date and time is when the alarm will return. Use the calendar drop-down to select the date. The expiration time can be selected in increments of 5 minutes. Click the 'Silence' button when finished. Notice that the alarm's status is now changed to "Silenced".



8.2 Ports / Jobs

From the Ports / Jobs screen, you can view details such as Good vs. Bad polls at your different sites. Simply choose which port you want to see, and view the Alarms and Analogs associated to that port. The stats are automatically updated approximately every 5 seconds.

Right click options for the Ports / Jobs screen include Details, View Alarms, View Analogs, Poll, Toggle Device Online/Offline.



Details - Brings up the Site Details for that particular port, such as the Alarm ID, Site Name, and Site Address.

View Alarms - Shows you all the alarm points associated to that site.

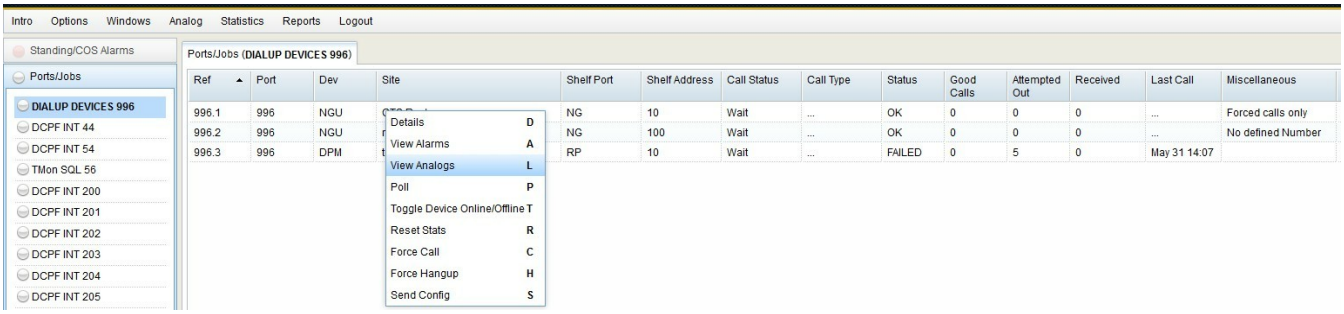
View Analogs - Shows you any analog alarms associated to that port, including the analog gauge (if one was selected.)

Poll - Activates a full poll to refresh status of all points in T/Mon.

Toggle Device Online/Offline - Sets device status as online or offline. Polling of site is suspended on offline devices.

8.2.1 Dialup Device Stats Monitor

From the Ports / Jobs screen, you can view the status of configured / databased Dialup devices. This screen features several additional right click menu options from the traditional Ports / Jobs screens.



Right Click Menu Options Unique to Dialup Device Stats Monitor

Reset Stats - Resets the polling stats.

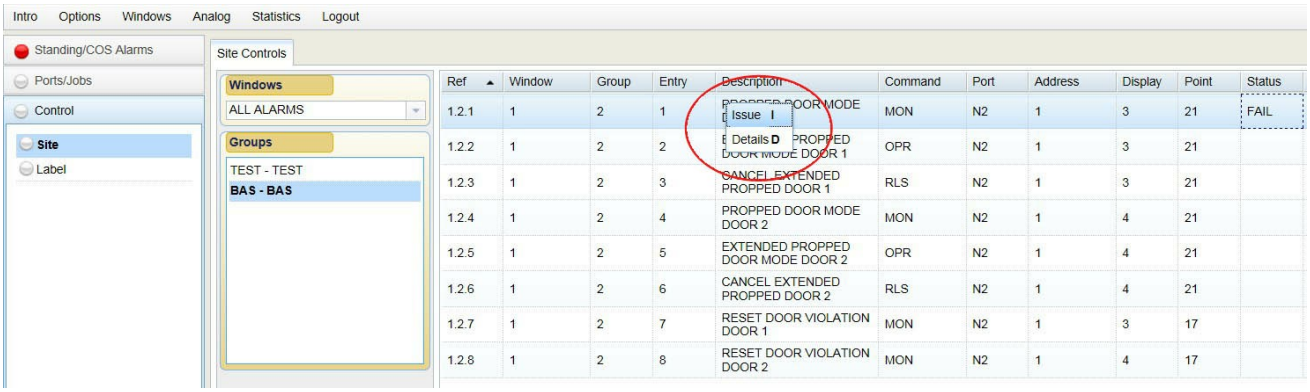
Force Call - Allows you to immediately check on a site by assigning the site selected site as the next site called. When the Force Call function is used, the Miscellaneous field will update the status.

Force Hangup - This function cancels the Force Call selection, if it is not already in progress.

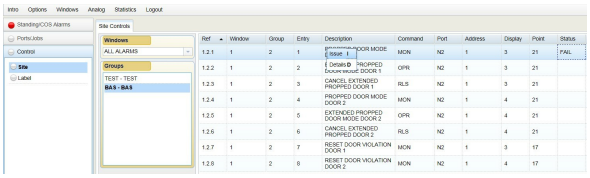
Send Config - Instructs T/Mon to re-send configuration to the device.

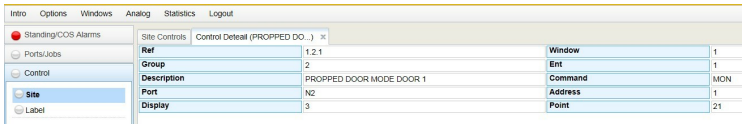
8.3 Controls

Issuing controls is just a click away. Click on 'Controls' in the Accordion Pane. You can choose to view controls by Site or Label.


Intro
Options
Windows
Analog
Statistics
Logout
Standing/COS Alarms
Ports/Jobs
Control
Site
Label
Site Controls
Windows
ALL ALARMS
Groups
TEST - TEST
BAS - BAS
Ref
Window
Group
Entry
Description
Command
Port
Address
Display
Point
Status
1.2.1 1 2 1 Issue I MON N2 1 3 21 FAIL
1.2.2 1 2 2 Details D PROPPED DOOR MODE DOOR 1 OPR N2 1 3 21
1.2.3 1 2 3 CANCEL EXTENDED PROPPED DOOR 1 RLS N2 1 3 21
1.2.4 1 2 4 PROPPED DOOR MODE DOOR 2 MON N2 1 4 21
1.2.5 1 2 5 EXTENDED PROPPED DOOR MODE DOOR 2 OPR N2 1 4 21
1.2.6 1 2 6 CANCEL EXTENDED PROPPED DOOR 2 RLS N2 1 4 21
1.2.7 1 2 7 RESET DOOR VIOLATION DOOR 1 MON N2 1 3 17
1.2.8 1 2 8 RESET DOOR VIOLATION DOOR 2 MON N2 1 4 17

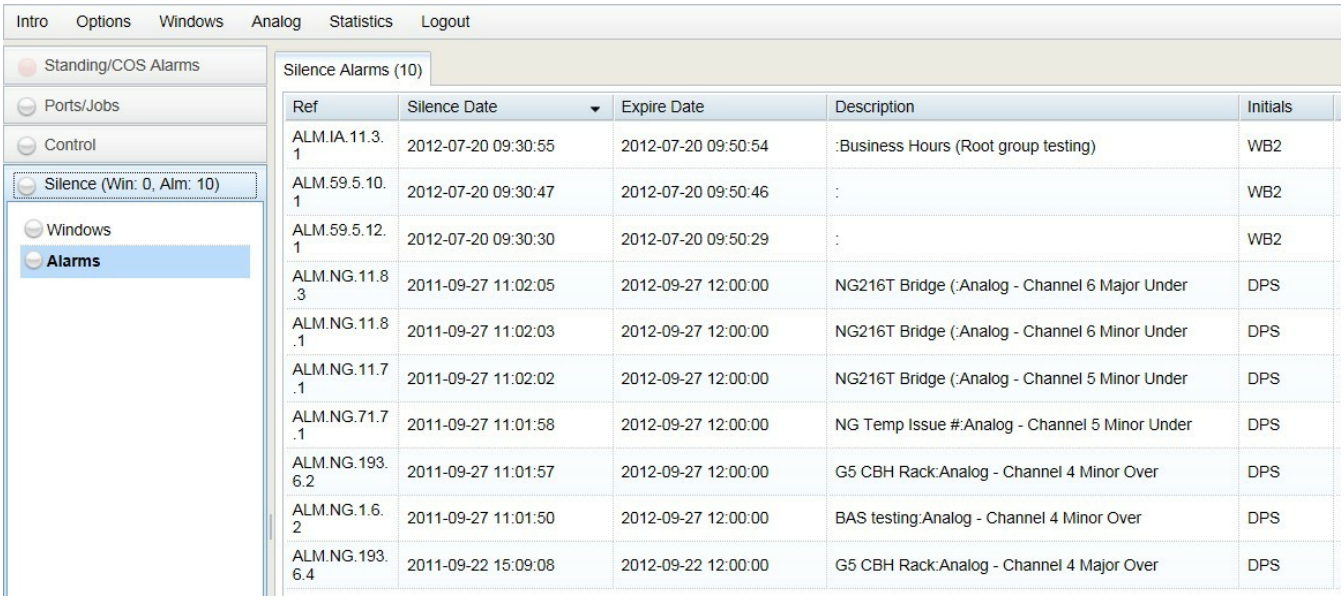
Right clicking on a Control will bring up a menu where you can select Issue or Details.





8.4 Silence

Click on the 'Silence' button in the Accordion Pane to see all your currently silenced items. You will choose whether to view silenced alarms or silenced windows.



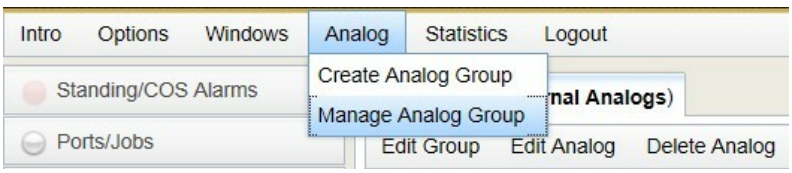
Ref	Silence Date	Expire Date	Description	Initials
ALM.IA.11.3.1	2012-07-20 09:30:55	2012-07-20 09:50:54	:Business Hours (Root group testing)	WB2
ALM.59.5.10.1	2012-07-20 09:30:47	2012-07-20 09:50:46	:	WB2
ALM.59.5.12.1	2012-07-20 09:30:30	2012-07-20 09:50:29	:	WB2
ALM.NG.11.8.3	2011-09-27 11:02:05	2012-09-27 12:00:00	NG216T Bridge (:Analog - Channel 6 Major Under	DPS
ALM.NG.11.8.1	2011-09-27 11:02:03	2012-09-27 12:00:00	NG216T Bridge (:Analog - Channel 6 Minor Under	DPS
ALM.NG.11.7.1	2011-09-27 11:02:02	2012-09-27 12:00:00	NG216T Bridge (:Analog - Channel 5 Minor Under	DPS
ALM.NG.71.7.1	2011-09-27 11:01:58	2012-09-27 12:00:00	NG Temp Issue #:Analog - Channel 5 Minor Under	DPS
ALM.NG.193.6.2	2011-09-27 11:01:57	2012-09-27 12:00:00	G5 CBH Rack:Analog - Channel 4 Minor Over	DPS
ALM.NG.1.6.2	2011-09-27 11:01:50	2012-09-27 12:00:00	BAS testing:Analog - Channel 4 Minor Over	DPS
ALM.NG.193.6.4	2011-09-22 15:09:08	2012-09-22 12:00:00	G5 CBH Rack:Analog - Channel 4 Major Over	DPS

8.5 Analog Groups

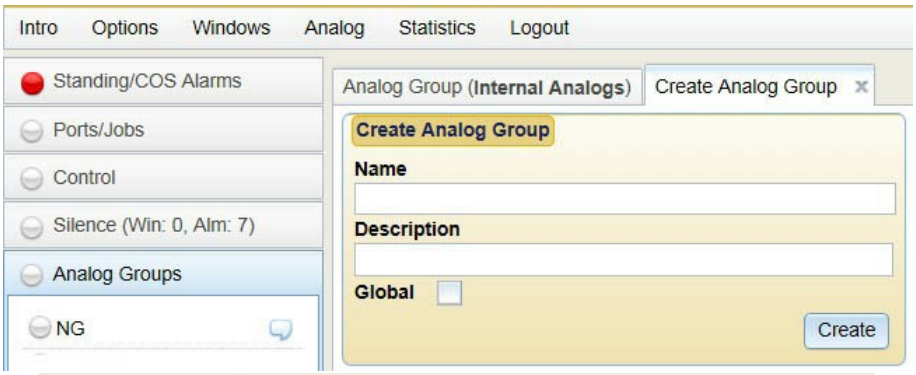
T/Mon Web 3.0 features a graphical gauge display of your analog values. The colored gauges offer a quick, visual representation of your battery levels, temperature, humidity, voltage readings, wind speed and much more.

The ability to create your own analog groups means you can view any assortment of these alarms and save your grouping. You might want to see all the analog alarms at one site, or maybe you want to see all of your temperature readings on one screen. After you have created your group, you'll choose whether to have it saved as your own personal config (only available under your login) or as a global group (available to all users).

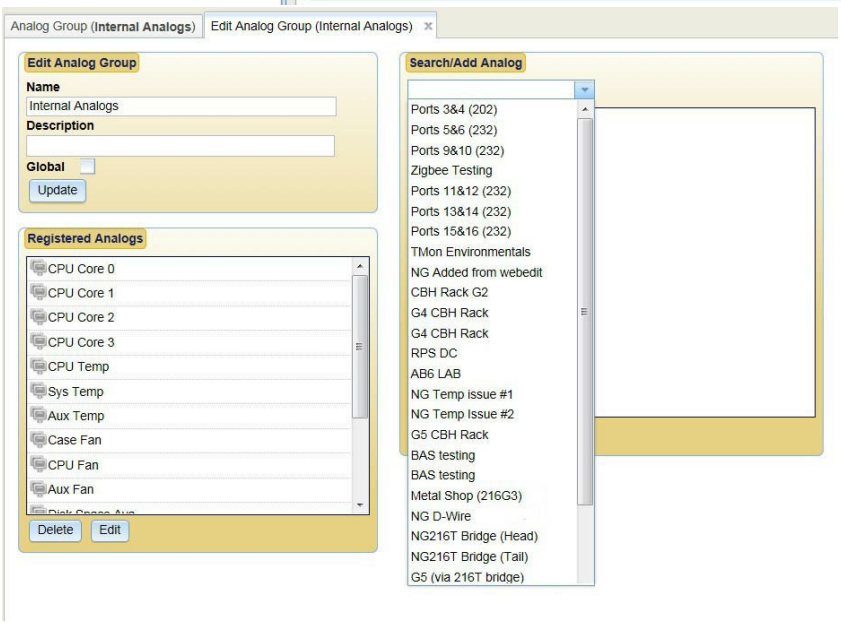
1. To create an analog group, click on 'Analog' in the Top Menu then select 'Create Analog Group'**.**



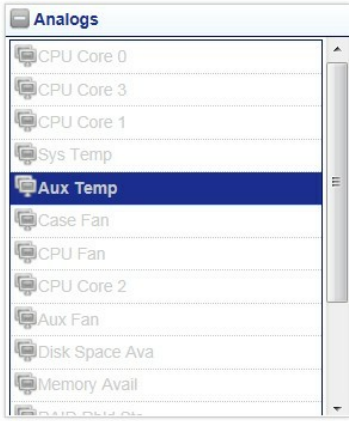
2. You will then need to enter a name and description for your new analog group. You can also select if you want this analog group to be a global analog group.



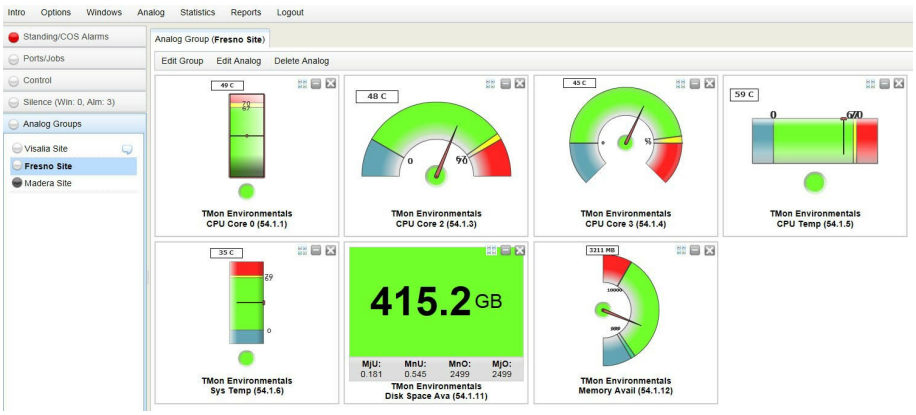
3. After creating your analog group, select your analog group from the accordian pane on the left. From here, you'll need to select 'Edit Group' to enable the gauge display of the analog values.



4. Then, using the Analog window on the right side of the screen, you can select which analogs you would like displayed as gauges. Just double click on the analog value and it will be generated as a gauge display.



5. Once you have added the Analogs you want to display, you should see an interface resembling the one to the right.

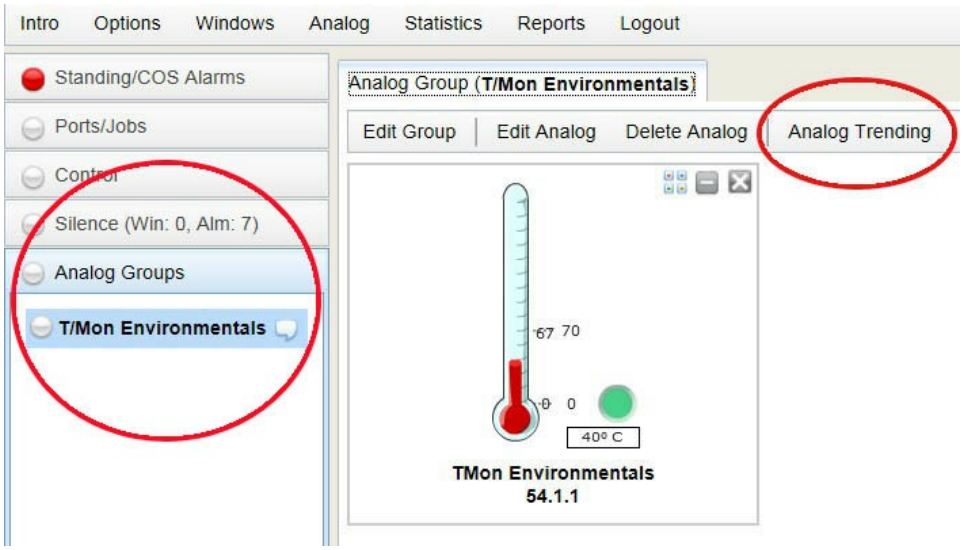


You can change the gauge style by using the gauge type icon (located right next to the minimize and close icons for each of the analog displays).

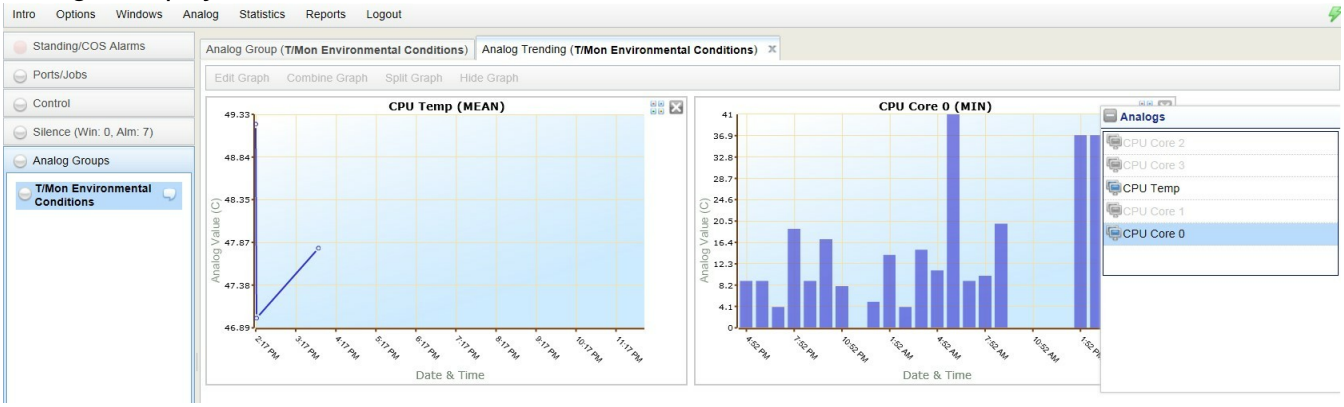
NOTE: Gauges require that your browser supports Flash and has a Flash plugin installed.

8.5.1 Analog Trending Graphs

Monitor Mode in Web 3.0 now features the ability to view analog data with analog trending graphs. To view analog trending graphs, first select 'Analog Groups' from the 'Accordian Pane' and then select your 'Analog Group'. From your Analog Group interface, select 'Analog Trending'.



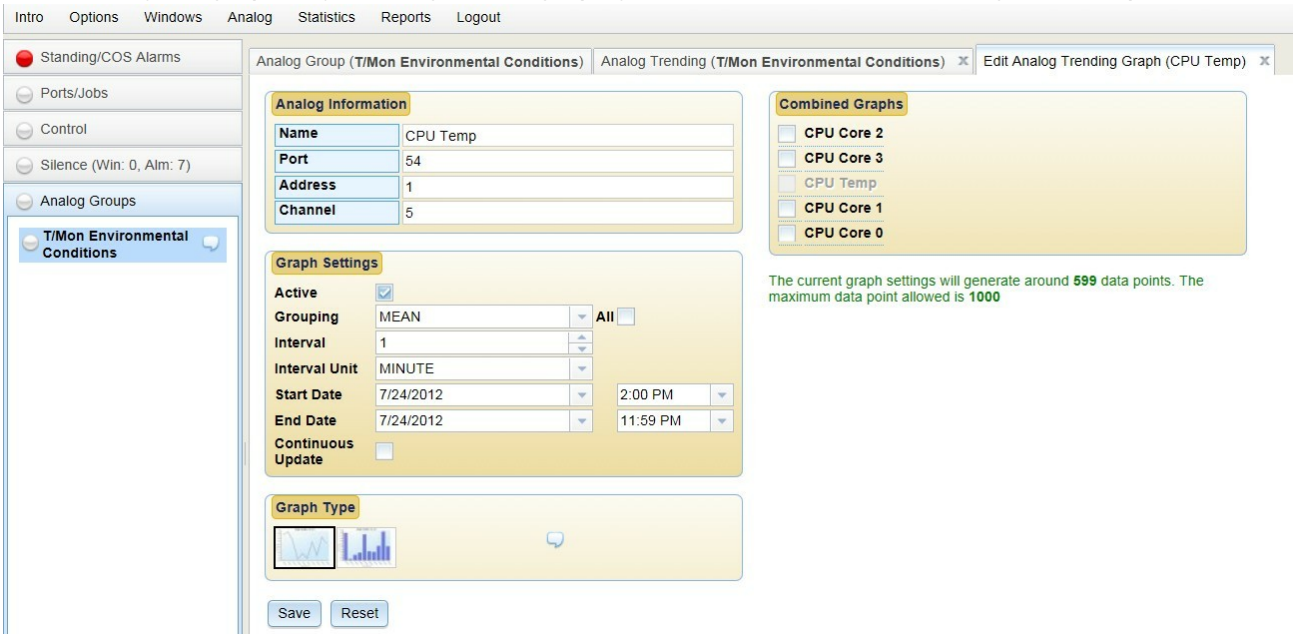
Double click on the available analogs in the Analogs window on the right to populate the window with analog to display.



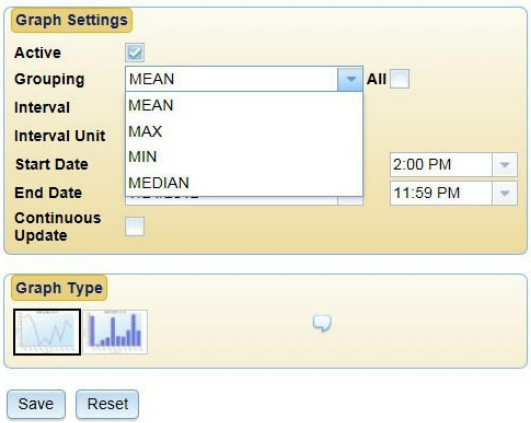
Once you have populated the Analog Trending interface with analogs from the desired analog group, you will now see graphical displays of the analog data for the analogs you selected. The settings for the

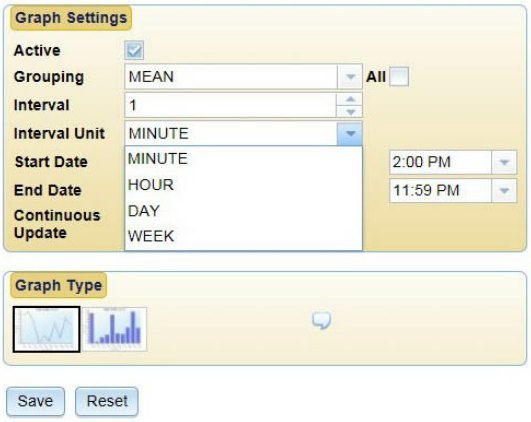
graph are saved by the user as they edit the settings.

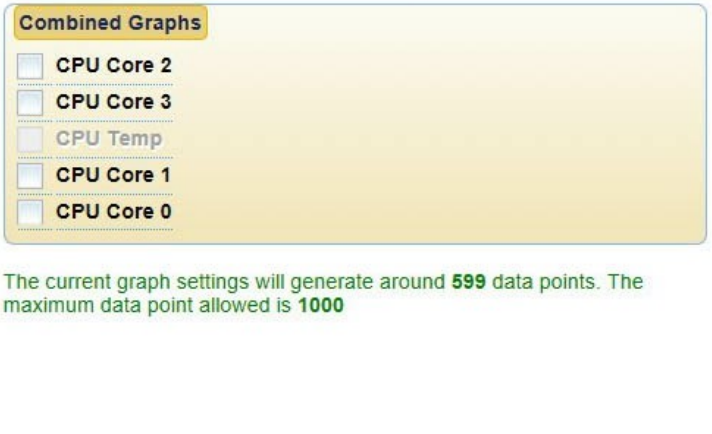
You can edit your graphs by clicking on the graph you wish to edit then selecting 'Edit Graph'.



From this window, you can configure your analog graphs using the various options found under Graph Settings. You can also select one of two graph types: Line Graph or Bar Graph. You can also use the "Combined Graphs" box on the right to combine analog data onto a single graph.






Combined Graphs
CPU Core 2
CPU Core 3
CPU Temp
CPU Core 1
CPU Core 0
The current graph settings will generate around 599 data points. The maximum data point allowed is 1000

8.6 History Reports

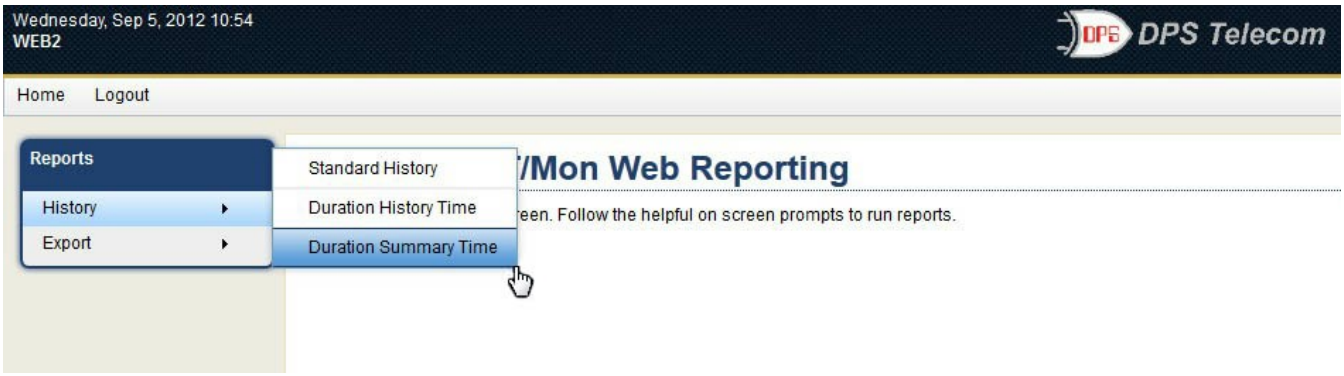
New in T/Mon Web 3.0 is the ability to generate history reports using the web interface. Your reports will be printed into PDF format or exported as a CSV or text file.

To access the web reporting interface, simply select 'Reports' from the Top Menu in Monitor Mode.

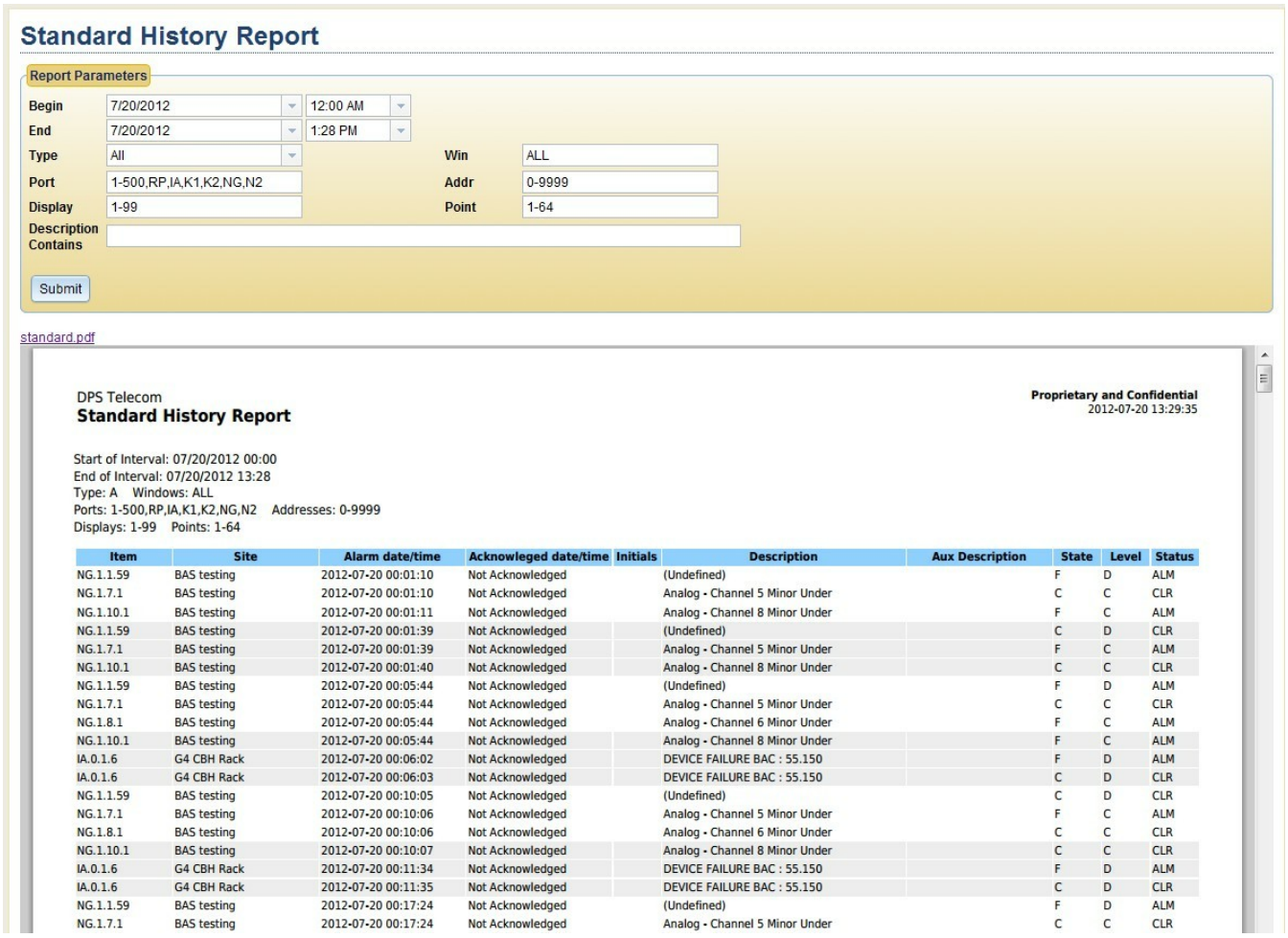
Intro
Options
Windows
Analog
Statistics
Reports
Logout
Standing/COS Alarms
ALL ALARMS
two
Win 17
Home
Welcome to T/Mon Web!
Use the Accordion to the left to navigate to the desire production location.
Standing/COS Alarms
View the list of alarms that have not yet cleared or the list of change of states that have not been acknowledge. This list includes all standing or cos alarms from windows you have permission to view.
01100100011100
00011100110010
00000111001001
11010101101100
01100101011100
11011001000111
Ports/Jobs
View alarms by port and/or device. Also view performance statistics to verify your devices are being polled correctly.

You can choose to generate a history report as a PDF (from the 'History' sub menu) or export a report as a CSV file or a text file (from the 'Export' sub menu).

By selecting 'History' from the sub menu, you can select the type of history report you would like to generate. Reports generated from this menu will be a PDF.

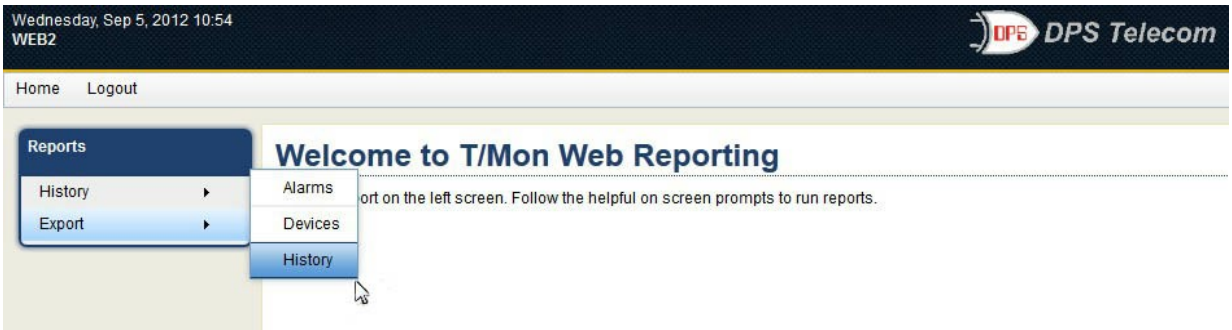


Configure your report parameters (beginning and ending date, windows, points, etc.) then select submit to generate the PDF report.

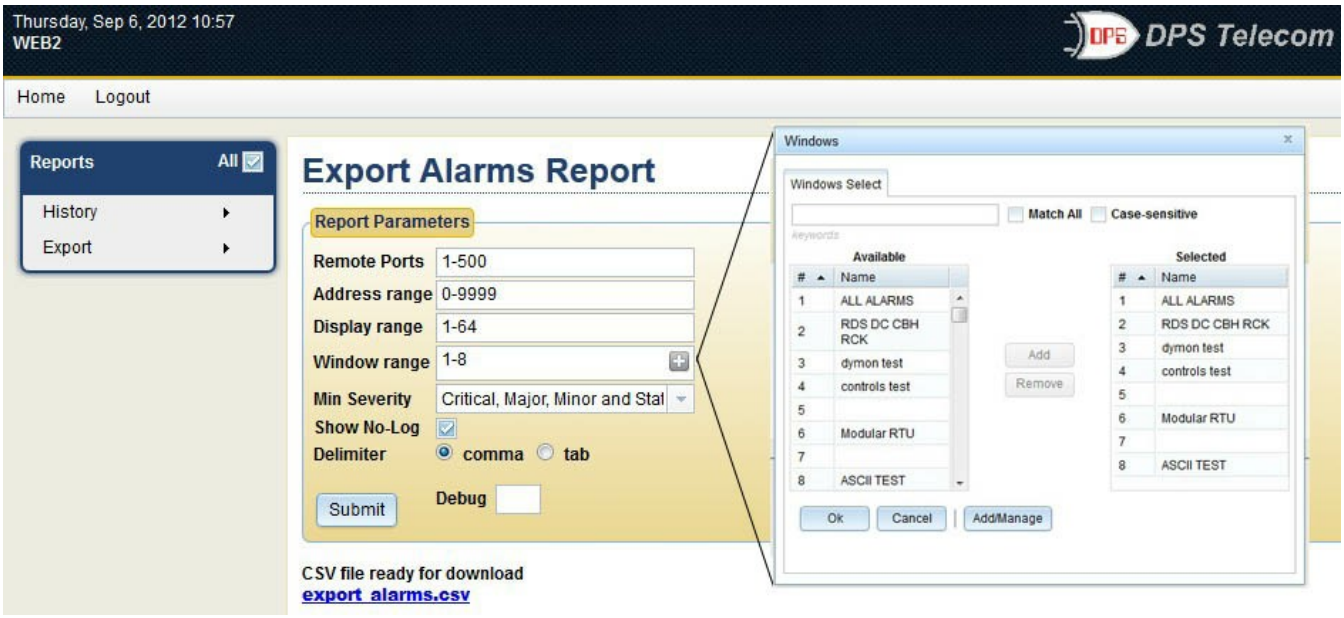


Item	Site	Alarm date/time	Acknowleged date/time	Initials	Description	Aux Description	State	Level	Status
NG.1.1.59	BAS testing	2012-07-20 00:01:10	Not Acknowledged		(Undefined)		F	D	ALM
NG.1.7.1	BAS testing	2012-07-20 00:01:10	Not Acknowledged		Analog - Channel 5 Minor Under		C	C	CLR
NG.1.10.1	BAS testing	2012-07-20 00:01:11	Not Acknowledged		Analog - Channel 8 Minor Under		F	C	ALM
NG.1.1.59	BAS testing	2012-07-20 00:01:39	Not Acknowledged		(Undefined)		C	D	CLR
NG.1.7.1	BAS testing	2012-07-20 00:01:39	Not Acknowledged		Analog - Channel 5 Minor Under		F	C	ALM
NG.1.10.1	BAS testing	2012-07-20 00:01:40	Not Acknowledged		Analog - Channel 8 Minor Under		C	C	CLR
NG.1.1.59	BAS testing	2012-07-20 00:05:44	Not Acknowledged		(Undefined)		F	D	ALM
NG.1.7.1	BAS testing	2012-07-20 00:05:44	Not Acknowledged		Analog - Channel 5 Minor Under		C	C	CLR
NG.1.8.1	BAS testing	2012-07-20 00:05:44	Not Acknowledged		Analog - Channel 6 Minor Under		F	C	ALM
NG.1.10.1	BAS testing	2012-07-20 00:05:44	Not Acknowledged		Analog - Channel 8 Minor Under		F	C	ALM
IA.0.1.6	G4 CBH Rack	2012-07-20 00:06:02	Not Acknowledged		DEVICE FAILURE BAC : 55.150		F	D	ALM
IA.0.1.6	G4 CBH Rack	2012-07-20 00:06:03	Not Acknowledged		DEVICE FAILURE BAC : 55.150		C	D	CLR
NG.1.1.59	BAS testing	2012-07-20 00:10:05	Not Acknowledged		(Undefined)		C	D	CLR
NG.1.7.1	BAS testing	2012-07-20 00:10:06	Not Acknowledged		Analog - Channel 5 Minor Under		F	C	ALM
NG.1.8.1	BAS testing	2012-07-20 00:10:06	Not Acknowledged		Analog - Channel 6 Minor Under		C	C	CLR
NG.1.10.1	BAS testing	2012-07-20 00:10:07	Not Acknowledged		Analog - Channel 8 Minor Under		C	C	CLR
IA.0.1.6	G4 CBH Rack	2012-07-20 00:11:34	Not Acknowledged		DEVICE FAILURE BAC : 55.150		F	D	ALM
IA.0.1.6	G4 CBH Rack	2012-07-20 00:11:35	Not Acknowledged		DEVICE FAILURE BAC : 55.150		C	D	CLR
NG.1.1.59	BAS testing	2012-07-20 00:17:24	Not Acknowledged		(Undefined)		F	D	ALM
NG.1.7.1	BAS testing	2012-07-20 00:17:24	Not Acknowledged		Analog - Channel 5 Minor Under		C	C	CLR

If you would rather export a history report as a CSV file or a text file, then select 'Export' from the sub menu.



If you would rather export a history report as a .csv file or a text file, then select 'Export' from the sub menu. Selecting 'comma' will export a CSV file for your report and selecting 'tab' will export a text file for your report. Configure your report parameters then select submit. There will be a new window that appears when selecting 'Window Range'. Add the alarm windows you wish to include to the 'Selected' column on the right then click 'Ok'. A link will appear on the bottom of the screen that will allow you to download and/or view your exported report.



9 Reference Section

9.1 Updating T/Mon Software

NOTE: This update procedure **requires T/Mon v6.5C10.0910 or later and proxy v1.0B10.0910 or later.** Contact DPS Tech Support at 559-454-1600 for assistance updating if you have an older version of either software. This entire update procedure, from the transfer of the software update file to the automatic T/Mon restart, **typically lasts 5-6 minutes**

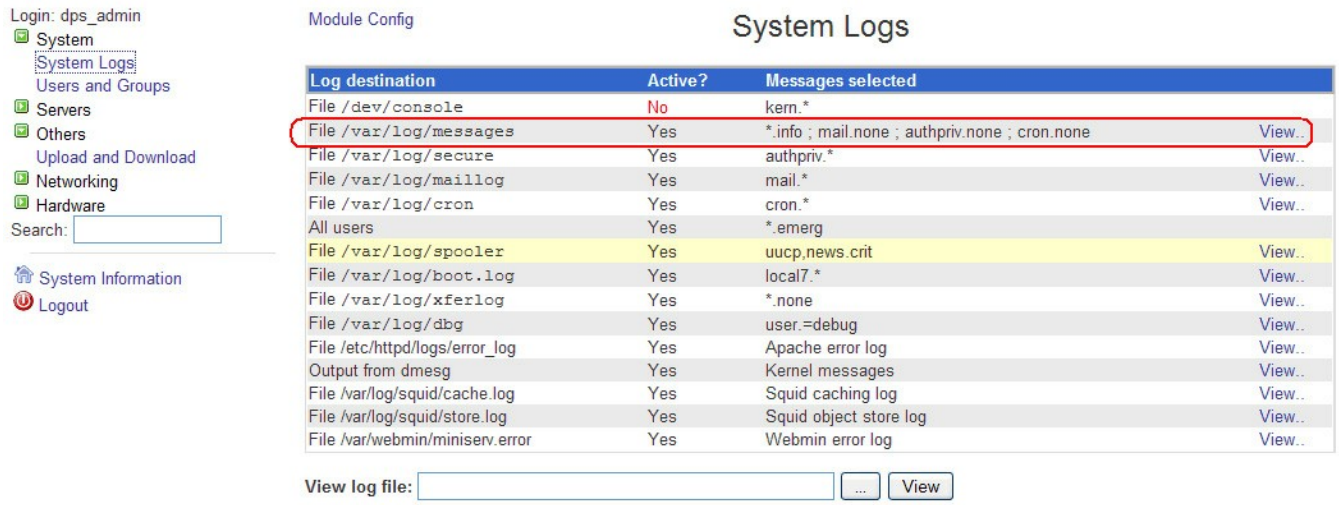
1. Verify that T/Mon is in **Monitor Mode.**
2. **Obtain a software update file** from DPS Telecom. This file will follow this specific naming convention:
   lnx_exec_xxxxxx.tar.gz.
3. **Start an FTP session** to T/Mon LNX (Use command-line or your preferred FTP client).
4. Log into the FTP session using any T/Mon user that has FTP access. The password is case sensitive and will commonly consist of only capital letters.
5. If you're using the command line, enable hash by typing in "hash on" and activate binary mode by typing "bin".
6. **Transfer the software update file to T/Mon LNX** via FTP. This file name is case sensitive, and you must not change the file name.
7. Wait 30-45 seconds for FileSync to detect the software update file.
8. Next, we'll **monitor the status of the software update with Webmin.** Launch Webmin and login

with username "dps_admin" and password "dpstelecom".

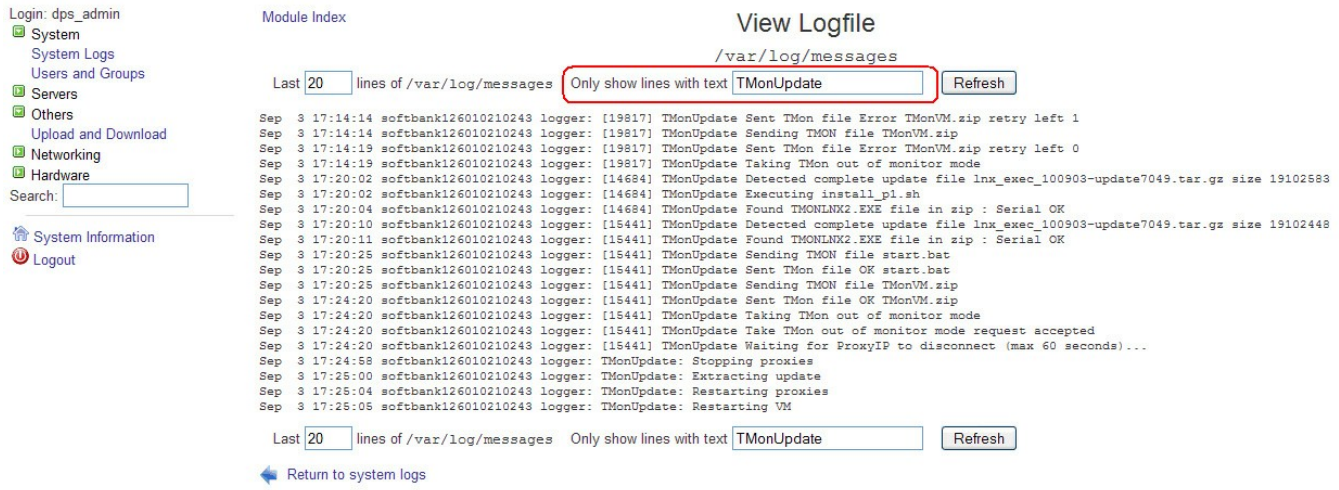
9. Click on the "System" link in the left pane.

10. Click the "System Logs" link that appears in the left pane.

11. Click the "View..." link for the "/var/log/messages" row in the center pane.


Login: dps_admin
System
System Logs
Users and Groups
Servers
Others
Upload and Download
Networking
Hardware
Search:
System Information
Logout
Module Config
System Logs
Log destination | Active? | Messages selected
File /dev/console | No | kern.*
File /var/log/messages | Yes | *.info ; mail.none ; authpriv.none ; cron.none | View..
File /var/log/secure | Yes | authpriv.* | View..
File /var/log/maillog | Yes | mail.* | View..
File /var/log/cron | Yes | cron.* | View..
All users | Yes | *.emerg
File /var/log/spooler | Yes | uucp,news.crit | View..
File /var/log/boot.log | Yes | local7.* | View..
File /var/log/xferlog | Yes | *.none | View..
File /var/log/dbg | Yes | user.=debug | View..
File /etc/httpd/logs/error_log | Yes | Apache error log | View..
Output from dmesg | Yes | Kernel messages | View..
File /var/log/squid/cache.log | Yes | Squid caching log | View..
File /var/log/squid/store.log | Yes | Squid object store log | View..
File /var/webmin/miniserv.error | Yes | Webmin error log | View..
View log file:
...
View

12. In the "Only show lines with text" box, **type "TMonUpdate".**


Login: dps_admin
System
System Logs
Users and Groups
Servers
Others
Upload and Download
Networking
Hardware
Search:
System Information
Logout
Module Index
View Logfile
/var/log/messages
Last 20 lines of /var/log/messages
Only show lines with text TMonUpdate
Refresh
Sep 3 17:14:14 softbank126010210243 logger: [19817] TMonUpdate Sent TMon file Error TMonVM.zip retry left 1
Sep 3 17:14:14 softbank126010210243 logger: [19817] TMonUpdate Sending TMON file TMonVM.zip
Sep 3 17:14:19 softbank126010210243 logger: [19817] TMonUpdate Sent TMon file Error TMonVM.zip retry left 0
Sep 3 17:14:19 softbank126010210243 logger: [19817] TMonUpdate Taking TMon out of monitor mode
Sep 3 17:20:02 softbank126010210243 logger: [14684] TMonUpdate Detected complete update file lnx_exec_100903-update7049.tar.gz size 19102583
Sep 3 17:20:02 softbank126010210243 logger: [14684] TMonUpdate Executing install_p1.sh
Sep 3 17:20:04 softbank126010210243 logger: [14684] TMonUpdate Found TMONLNX2.EXE file in zip : Serial OK
Sep 3 17:20:10 softbank126010210243 logger: [15441] TMonUpdate Detected complete update file lnx_exec_100903-update7049.tar.gz size 19102448
Sep 3 17:20:11 softbank126010210243 logger: [15441] TMonUpdate Found TMONLNX2.EXE file in zip : Serial OK
Sep 3 17:20:25 softbank126010210243 logger: [15441] TMonUpdate Sending TMON file start.bat
Sep 3 17:20:25 softbank126010210243 logger: [15441] TMonUpdate Sent TMon file OK start.bat
Sep 3 17:20:25 softbank126010210243 logger: [15441] TMonUpdate Sending TMON file TMonVM.zip
Sep 3 17:24:20 softbank126010210243 logger: [15441] TMonUpdate Sent TMon file OK TMonVM.zip
Sep 3 17:24:20 softbank126010210243 logger: [15441] TMonUpdate Taking TMon out of monitor mode
Sep 3 17:24:20 softbank126010210243 logger: [15441] TMonUpdate Take TMon out of monitor mode request accepted
Sep 3 17:24:20 softbank126010210243 logger: [15441] TMonUpdate Waiting for ProxyIP to disconnect (max 60 seconds)...
Sep 3 17:24:58 softbank126010210243 logger: TMonUpdate: Stopping proxies
Sep 3 17:25:00 softbank126010210243 logger: TMonUpdate: Extracting update
Sep 3 17:25:04 softbank126010210243 logger: TMonUpdate: Restarting proxies
Sep 3 17:25:05 softbank126010210243 logger: TMonUpdate: Restarting VM
Last 20 lines of /var/log/messages
Only show lines with text TMonUpdate
Refresh
Return to system logs

13. Click the "Refresh" button. The first line should now read "TMonUpdate Detected complete update file..."

14. When the update is complete, **a log entry will read "TMonUpdate: Restarting VM"**

15. FileSync will now send down a TmonVM.zip file to T/Mon. This may take **2-3 minutes** to complete. Verify that "Sending T/Mon file TmonVM.zip" appears in the log.

16. Watch the VM console to **verify that T/Mon restarts.**

Your T/Mon software is now updated.

10 Technical Support

DPS Telecom products are backed by our courteous, friendly Technical Support representatives, who will give you the best in fast and accurate customer service. To help us help you better, please take the following steps before calling Technical Support:

1. Check the DPS Telecom website.
You will find answers to many common questions on the DPS Telecom website, at **http://www.dpstele.com/support/**. Look here first for a fast solution to your problem.

2. Prepare relevant information.
Having important information about your DPS Telecom product in hand when you call will greatly reduce the time it takes to answer your questions. If you do not have all of the information when you call, our Technical Support representatives can assist you in gathering it. Please write the information down for easy access. Please have your user manual and hardware serial number ready.

3. Have access to troubled equipment.
Please be at or near your equipment when you call DPS Telecom Technical Support. This will help us solve your problem more efficiently.

4. Call during Customer Support hours.
Customer support hours are Monday through Friday, from 7 A.M. to 6 P.M., Pacific time. The DPS Telecom Technical Support phone number is **(559) 454-1600**.

Emergency Assistance: *Emergency assistance is available 24 hours a day, 7 days a week. For emergency assistance after hours, allow the phone to ring until it is answered with a paging message. You will be asked to enter your phone number. An on-call technical support representative will return your call as soon as possible.*

11 T/Mon Gold and Platinum Plans

T/Mon Gold & Platinum Plan Support Escalation Policy

(559) 454-1600 Phone
(559) 454-1688 Fax
support@dpstele.com Email

When you call DPS for T/Mon LNX support under your T/Mon maintenance agreement, you'll receive the following benefits:

1. If you call during normal DPS operating hours (7:00am to 6:00pm Pacific Standard Time), you will receive priority tech support in front of all calls from users without a T/Mon Gold Plan. If you have an emergency situation, your call will be prioritized to the top of the list (at uncommon times when there is a list).
2. If you call outside normal DPS operating hours with an emergency (ex. "System is Down"), you have access to 7x24x365 Tech Support. Follow the recorded voice instructions to alert the on-call technician. The on-call technician will typically return your call within 15 minutes.
3. With your permission, DPS technicians can remotely access your T/Mon from DPS Headquarters (typically via dialup) to facilitate diagnostics and instructions. You can follow along on your T/Mon screen as technicians control your T/Mon.
4. If it is determined that DPS hardware is at fault, one of the following will occur at DPS' discretion:
    - With client consent, DPS will, on a priority basis, expedite a replacement component for the client's qualified staff to install.
    - The client will ship the unit back to DPS for priority repair and return on a priority basis. When units are received by DPS before 12:00pm, they are repaired, tested, and shipped back to the client within one business day, provided there are no extenuating circumstances.
    - DPS will advance-replace the entire T/Mon unit. After receiving the new T/Mon, the client will ship the failed unit to DPS. The unit will be repaired and shipped back to the client. Upon receiving the repaired unit, the client will return the advance-replacement unit to DPS.

Extended Maintenance Agreement Benefits:

- **Half-Price or Free Hardware Upgrades**

  T/Mon operates 7x24x365. That's stressful for any hardware. Plus, the DPS engineers are constantly improving the platform. That's **2 big reasons** why you should update your T/Mon hardware regularly. T/Mon Maintenance Agreements make it easy to get the equivalent of a brand new monitoring system every 3-5 years. You'll stay well ahead of the mortality curve, and you'll never get stuck using ancient technology.

  Participate in our **50%-off upgrade program** at the end of your third consecutive year as a Gold Plan member, **OR** Participate in our **free upgrade program** at the end of your fifth consecutive year as a Platinum Plan member. We'll send you a **brand new** T/Mon. Just send us back the old one.

- **Software upgrades**

  Includes major release(s), plus updates throughout the life of your Gold/Platinum Plan. These major releases are not small. They incorporate user feedback, industry best practices evolution, entirely new capabilities, as well as the occasional code correction.

- **4-Day Factory Training course**

  Hosted at our corporate headquarters (up to 3 members from your team can attend per session - multiple sessions per year).

- **Spares and standby purchase discount**

  Backup units are essential for disaster recovery. With a Gold/Platinum Plan, you'll get discount prices on purchasing spare parts and standby units.

12 End User License Agreement

All Software and firmware used in, for, or in connection with the Product, parts, subsystems, or derivatives thereof, in whatever form, including, without limitation, source code, object code and microcode, including any computer programs and any documentation relating to or describing such Software is furnished to the End User only under a non-exclusive perpetual license solely for End User's use with the Product.

The Software may not be copied or modified, in whole or in part, for any purpose whatsoever. The Software may not be reverse engineered, compiled, or disassembled. No title to or ownership of the Software or any of its parts is transferred to the End User. Title to all patents, copyrights, trade secrets, and any other applicable rights shall remain with the DPS Telecom.

DPS Telecom's warranty and limitation on its liability for the Software is as described in the warranty information provided to End User in the Product Manual.

End User shall indemnify DPS Telecom and hold it harmless for and against any and all claims, damages, losses, costs, expenses, obligations, liabilities, fees and costs and all amounts paid in settlement of any claim, action or suit which may be asserted against DPS Telecom which arise out of or are related to the non-fulfillment of any covenant or obligation of End User in connection with this Agreement.

This Agreement shall be construed and enforced in accordance with the laws of the State of California, without regard to choice of law principles and excluding the provisions of the UN Convention on Contracts for the International Sale of Goods. Any dispute arising out of the Agreement shall be commenced and maintained only in Fresno County, California. In the event suit is brought or an attorney is retained by any party to this Agreement to seek interpretation or construction of any term or provision of this Agreement, to enforce the terms of this Agreement, to collect any money due, or to obtain any money damages or equitable relief for breach, the prevailing party shall be entitled to recover, in addition to any other available remedy, reimbursement for reasonable attorneys' fees, court costs, costs of investigation, and other related expenses.

*"**D**ependable, **P**owerful **S**olutions*
that allow users to monitor larger,
more complicated networks with a
smaller, less trained staff"

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